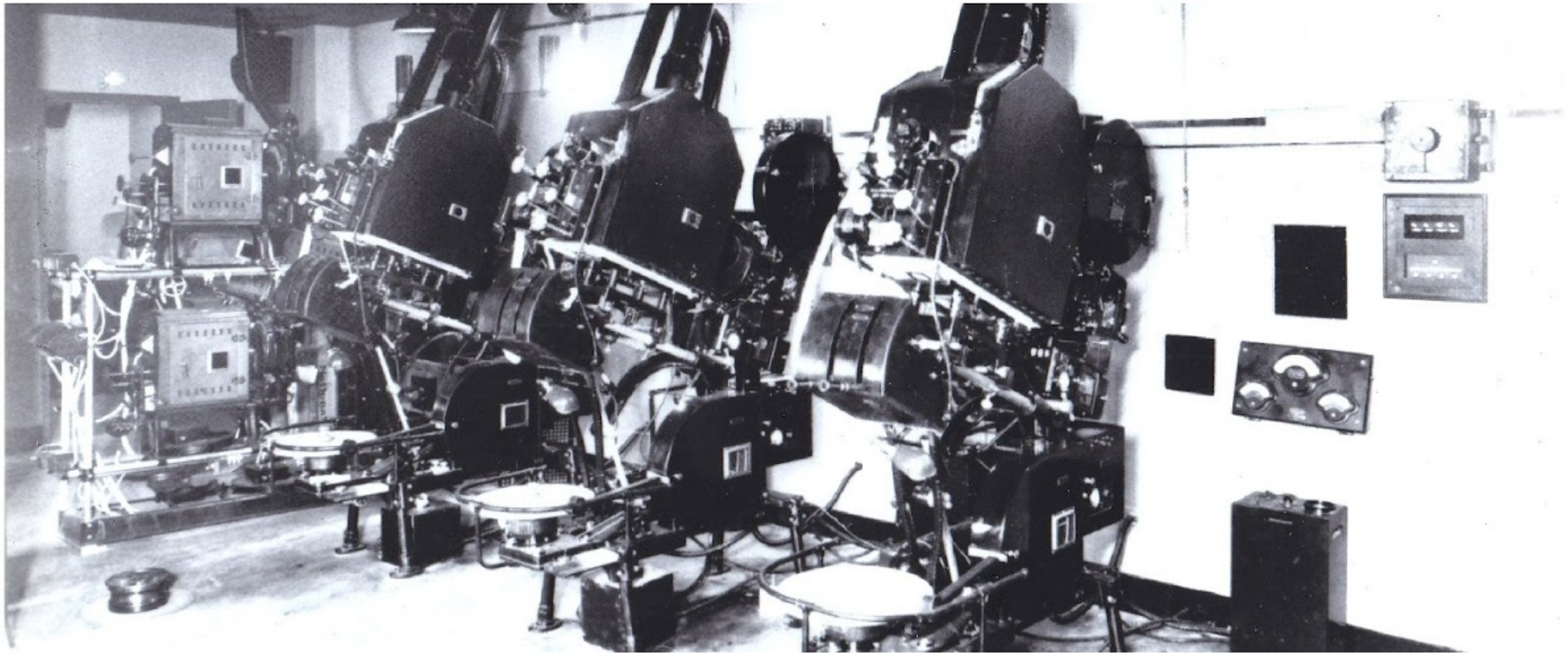
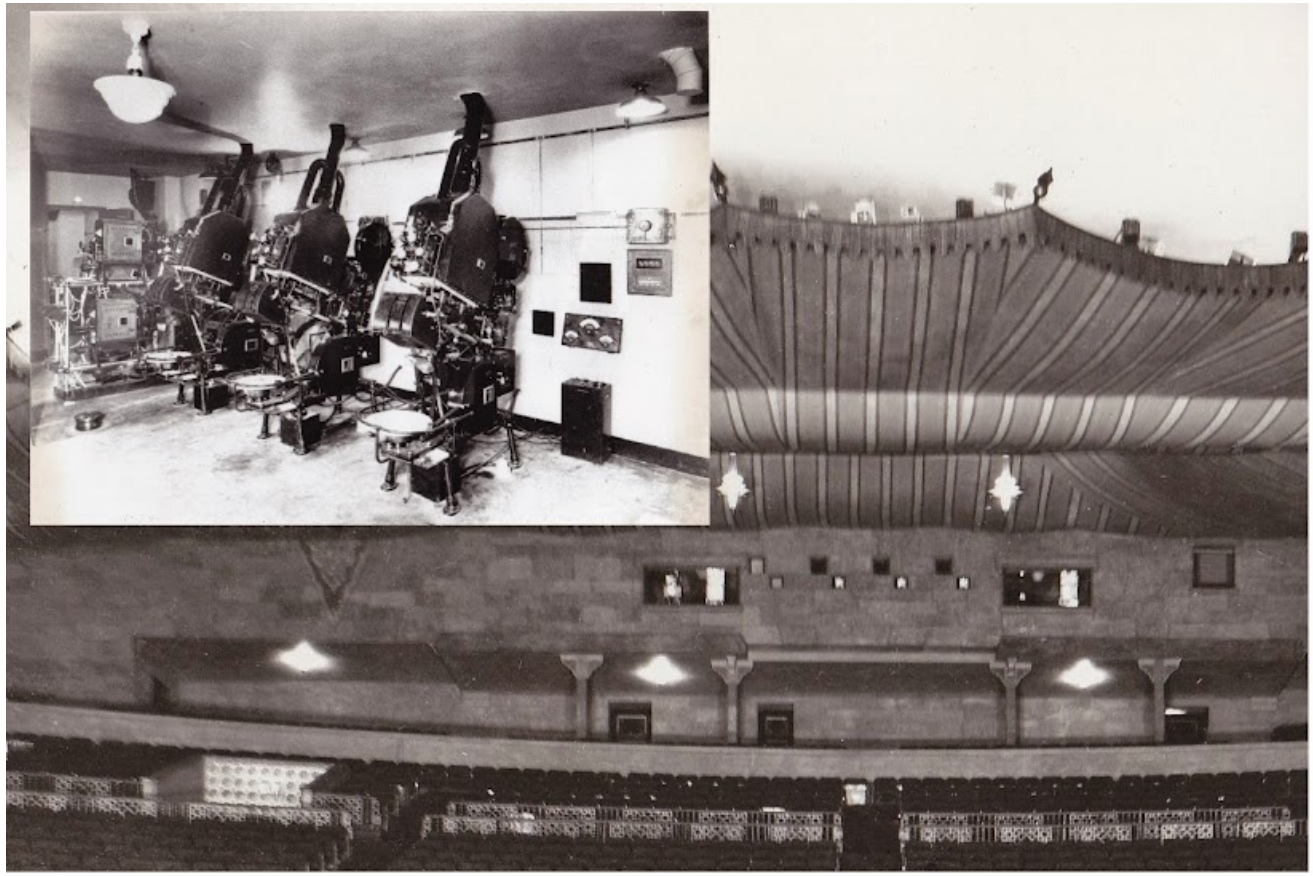
TALKING PICTURE PROJECTION AT THE FOX



The first theatre in the South to include talking picture apparatus as an original installation was the Atlanta Fox which opened on Christmas Day, 1929.

"Projection Room Best in Country" ran the headline in the Atlanta *Georgian* of December 22, 1929. The full text of the article is below.



PROJECTION ROOM BEST IN COUNTRY

"If you are going to spend a half million dollars for a picture, you should have proper equipment for projection on the screen."

That was the idea with which J. J. Kelly, supervisor of projection for Fox Theatres, had in mind when he finished up the projection room of the new Fox Theater at Ponce de Leon Avenue and Peachtree Street, which is to open its doors shortly after noon Christmas Day.

"This new theater has projection equipment which is superior to any I have ever seen in any theater," Mr. Kelly, who has visited nearly all the big playhouses in the country, declared upon inspection of the projection room. "With the machines installed, the theater is prepared to take care of any type of picture now being made, or which will be produced within the near future."

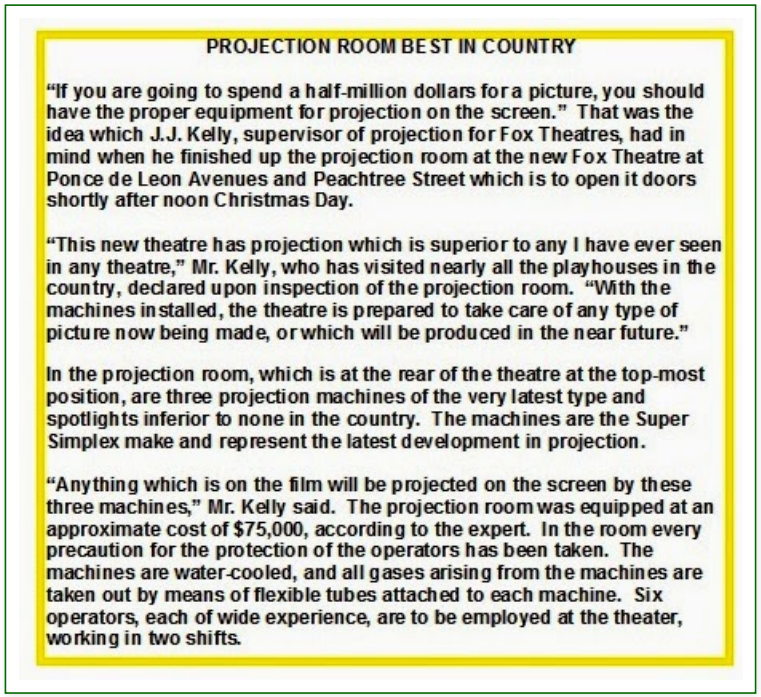
In the projection room, which is at the rear of the theater at the topmost position, are three projection machines of the very latest type and spotlights inferior to none in the country. The machines are the Super Simplex make and represent the latest developments in projection.

"Anything which is on the film will be projected on the screen by these machines," Mr. Kelly said.

The projection room was equipped at an approximate cost of $25,000, according to the expert.

In the room every precaution for the protection of the operators has been taken. The machines are watercooled, and all gases arising from the machines are taken out by means of flexible tubes attached to each machine.

Six operators, each of wide experience, are to be employed at the theater, working in two shifts.



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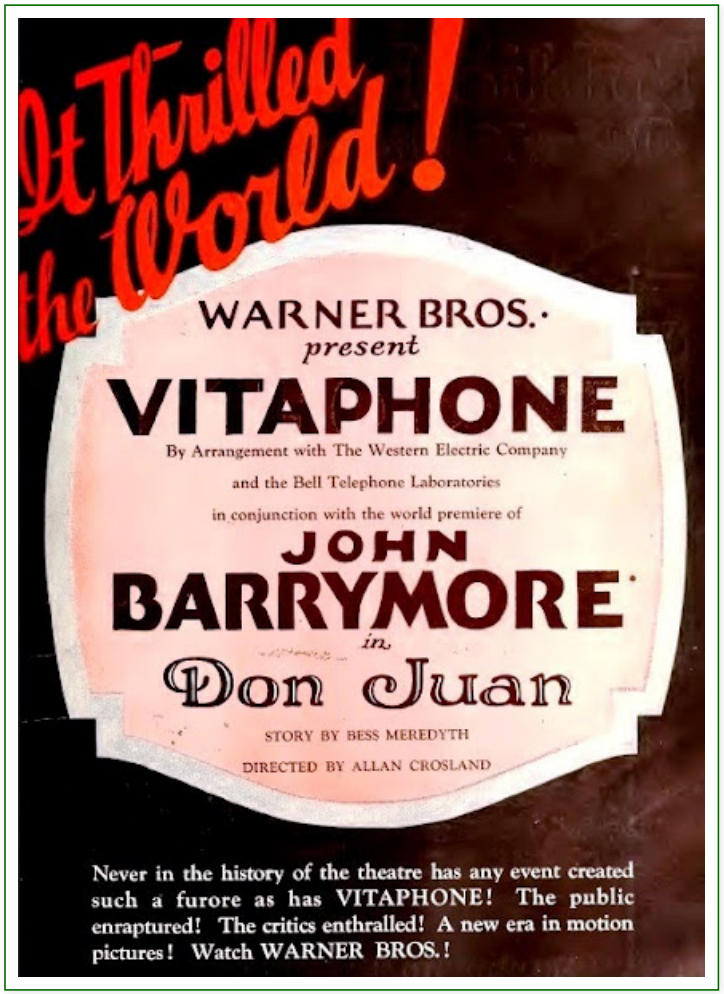
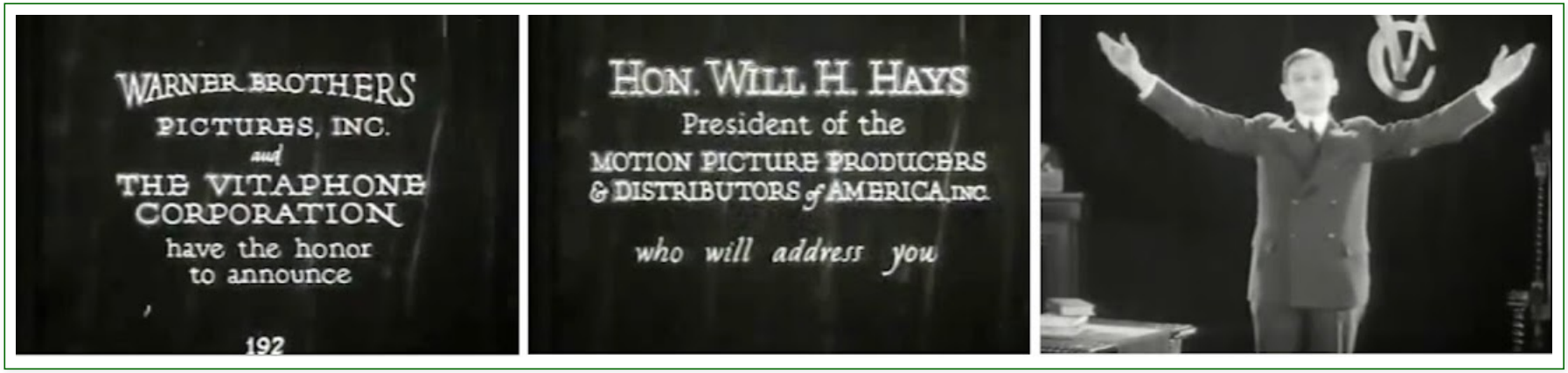
Three years before the Fox opened, pictures with sound made their debut in August, 1926 with "Don Juan." This daring experiment was a joint venture between Warner Brothers and Western Electric, the research and manufacturing arm of the Bell Telephone Company. The Vitaphone system was a disc recording synchronized to the film projector.

The Event That Will Revolutionize Motion Pictures!
August 6th – is the date!
The Warner Theatre, N.Y.
– is the place!
VITAPHONE
Will Thrill The World!
EXHIBITORS! Do you realize that on August 6th motion pictures will have been completely revolutionized by "VITAPHONE"? On that day "VITAPHONE" will bring the realization of a new future to the theatres of the world; a future brighter in its aspects, broader in its scope, and greater in its possibilities than any other period in the development of motion pictures.
What the telephone means to modern life; what the railroad train means to modern travel; what the world's greatest inventions mean to civilization today — that is what Warner Bros. bring to motion pictures in "VITAPHONE."
Nothing in the history of motion pictures compares with the importance of this one event! Through "VITAPHONE" it will now be possible for the world at large to see and hear that which was heretofore impossible. At last the actual performances of the world's greatest artists will be brought to the screen! Martinelli, Mischa Elman, Marion Talley, Harold Bauer, Efrem Zimbalist, Anna Case, The Metropolitan Opera Chorus, the 107-piece New York Philharmonic Orchestra —personally directed by Henry Hadley! Each one a name that draws fabulous prices at the box-offices of opera houses and concert halls everywhere. And scores of others still to come. Stop and think! The motion picture public will see and hear in one performance, for one admission price, the greatest entertainment the stage or screen has ever seen!
In collaboration with the finest scientific and engineering laboratories in the world, those of the Western Electric Company and the Bell Telephone Laboratories with their staffs of more than three thousand expert scientists and engineers, Warner Bros., through its alertness, its eagerness to excell in deeds, its farsightedness and ready appreciation of big ideas have brought the realization of this new future for motion pictures.
Like the rumblings of a coming storm, word-of-mouth comment comes low and slowly, but gathering power as it sweeps onward, it carries like lightning to the far corners of the world. Such will be the praise for "VITAPHONE"! Already you have heard of it. And on August 6th the whole world will thrill to the greatest news the entire motion picture industry has ever heard. The World Premiere of "VITAPHONE" — Remember the date, August 6, 1926.
PRESENTED BY
WARNER BROS.
IN CONJUNCTION WITH
WORLD PREMIERE SHOWING OF
"DON JUAN"
WITH THE WORLD'S GREATEST ACTOR
JOHN BARRYMORE
BY ARRANGEMENT WITH
THE WESTERN ELECTRIC COMPANY
AND THE
BELL TELEPHONE LABORATORIES
OPENING NIGHT ADMISSION
$10
PLUS TAX

The film was an instantaneous and enormous success which rocked the very foundations of Hollywood where the term "silent picture" had not yet been coined.


It Thrilled the World!
WARNER BROS.
present
VITAPHONE
By Arrangement with The Western Electric Company
and the Bell Telephone Laboratories
in conjunction with the world premiere of
JOHN BARRYMORE
in
Don Juan
STORY BY BESS MEREDYTH
DIRECTED BY ALLAN CROSLAND
Never in the history of the theatre has any event created such a furore as has VITAPHONE! The public enraptured! The critics enthralled! A new era in motion pictures! Watch WARNER BROS.!

Not an actual talking picture, "Don Juan" was originally slated as a silent release which Vitaphone supplemented with a synchronized musical score and sound effects, recorded at the Manhattan Opera House. The four minute greeting by film czar Will Hays talked. To watch, click this link.



Second and third units of "Juan" were sent westward, but the picture could play only houses equipped for talkies, of which there were none. Western Electric accomplished rapid installs in Chicago, then Los Angeles.

WARNER BROS. PRESENTS
VITAPHONE
JOHN BARRYMORE
in "DON JUAN"
and now it hits Chicago
IN ARRANGEMENT WITH THE VITAPHONE CORP., THE WESTERN ELECTRIC CO., & BELL LABORATORIES
A NIGHT that Chicago will never forget! Another night of triumph that echoes the unparalleled praise accorded the world's greatest entertainment in New York and Atlantic City. Playing Balaban & Katz' big McVickers Theatre, its policy changed for the first time to play the greatest of road show attractions at advanced prices!
Continuing to break all records at the Warner Theatre, N. Y. The biggest advance sale of any show in town—not an empty seat to date, not an empty seat in sight!
Duplicating at the Globe Theatre, Atlantic City, N. J., the unprecedented success of New York showing! The greatest event that ever hit the resort with an advance sale weeks ahead!
And now watch Chicago! Watch this great show everywhere! Motion picture history is being revolutionized!
WARNER BROS.
Producers of 26 Warner Winners for 1926-27
WARNER BROS. PRESENTS
VITAPHONE and
JOHN BARRYMORE
in "DON JUAN"
McVICKERS
with MARY ASTOR
Story by BESS MEREDY
Directed by ALAN CROSLA

Least thrilled in LA about Vitaphone were the studios when this "New York picture" encroached upon their home turf.

EXTRA! Vitaphone! "Don Juan" EXTRA!

VARIETY

"DON JUAN" LOS ANGELES, CALIF., WEDNESDAY, OCTOBER 27, 1926 VITAPHONE

VITAPHONE THRILLS L. A.

REMARKABLE FIRST NIGHT CROWD ACCLAIMS VITAPHONE

Critical Audience of Celebrities and General Public Thrills at Introduction of New Instrument—Vitaphone Called "Great Invention"

Vitaphone made its initial bow to the Pacific Coast tonight in the most brilliant premiere event staged at Grauman's Egyptian theatre, when Sid Grauman, Warner Brothers and the Vitaphone corporation introduced this startling discovery as a prelude to John Barrymore in "Don Juan."

Celebrities of the films, including stars, directors, and producers, along with the socially elite, and those prominent in the business and professional life of the city, comprised one of the most representative first-night audiences ever collected for a premiere.

Not only did Vitaphone thrill the sophisticated audience of first-nighters, but also it added another laurel of pioneering to Sid Grauman, who first sponsored long run motion picture presentation on the Coast and who now introduces to Western theatre fans the most revolutionary development the screen world has yet seen.

True, it was a slightly incredulous audience that passed through the doors at 8:15 o'clock. So much has been talked and written about sound and pictures that many were openly skeptical. But it was those who came doubtingly that passed out later warmest in their exclusive praise of a new art that, as Will H. Hays said in his opening address, "is the beginning of a new era in music and pictures."

The unanimous verdict was that all the superlatives that have been used to explain the Vitaphone have not been enough. Vitaphone is the greatest invention the world of music and pictures has yet known, and "Don Juan" from start to finish is a great production. Vitaphone is discussed elsewhere in this paper.

Crowds began to pour into the forecourt of the Egyptian as early as 7:45 o'clock, and one by one as the celebrities arrived they were interviewed over the loudspeaker. Powerful arc lamps played across the sky in gorgeous area and illuminated the outdoor foyer more brilliantly than daylight.

(Continued on Page 2)

NEXT MENJOU PICTURE

Adolphe Menjou is to be starred in "Wish Those Eyes Open" which is being adapted from the Saturday Evening Post story of A. A. Wyke by Julian Josephson for F. P. L. Lasker Bros will arrive here about Dec 15 to direct the picture. Alice Joyce will play the feminine lead.

SCORING THIRD PICTURE

Vitaphone Corporation is now scoring the third picture for Warner Bros., John Barrymore in "Moran Lorsan" with Dolores Costello.

Vin nat Lopez and his band have also been signed as a Vitaphone attraction. This booking is believed to be pregnant with possibilities concerning the future of bands in vaudeville.

Numerous other stars of the musical comedy, operatic and vaudeville world will be signed up by the Vitaphone corporation in the near future, and all of them will be heard on Vitaphone program throughout the land.

WARNER BROS. ROAD SHOWS AS UNITS

"Don Juan" First to Go Out with Vitaphone Presentation

All of Warner Bros. road shows are to be sent out as a unit, according to information given out at the Warner Bros.' studios here. In addition to the Vitaphone-"Don Juan" combination now at Grauman's Egyptian, similar units are being presented in New York, Chicago, St. Louis and Atlantic City. Preparations are now under way to launch unit productions in Boston, Philadelphia and other important key centres, with similar towns to follow.

All of the road shows will have a Vitaphone presentation, and it is planned to play all key cities before the picture is released generally, thus giving the exhibitors the advantage of general country-wide advertising.

"Don Juan" will have the same Vitaphone presentation on the road as it is having in Hollywood, or as near to it as possible. This means that the key cities will host Conrad Nagel, Mary Astor, Anna Case, Mischa Elman, the New York Philharmonic Orchestra, etc., or artists of equal importance.

Blase First-Nighters Get A Taste of Something New and Really Worth While—Perfect Synchronization of Sound and Motion Comes Spectators to Gasp—Sid Grauman Praised On All Sides For His Master Stroke of Showmanship.

IT REPLACES PROLOGUE

By ARTHUR UNGAR

Well folks they went and did it at Grauman's Egyptian tonight! They put on something which Hollywood has been hearing about but never had the chance to hear. It was nothing more than that uncanny device—the Vitaphone. It was presented in conjunction with John Barrymore's sensational picture, "Don Juan," and held everybody among the lucky 1,800 in the house spellbound and thrilled them as they have never been before. New history was made in Hollywood picture annals and it looks as though if anyone wants to keep abreast of the times when showing de luxe pictures they will have to get that Warner Brother's Vitaphone attachment. That will spell core success and long runs, as "Don Juan" with the new device applied, operating in conjunction with it is sure to remain on Hollywood Boulevard until the Leaves season comes around.

Those hard-boiled picture people who have been waiting to see what this thing was all about, were shown and shown aplenty. That gang of skeptics who sit on the side lines and say "it must have been an accident," when something good in pictures or presentations have been achieved, did not have chips on their shoulders tonight. They lost their cynic bridge and most of their heads and their ears stood up that never did before. They sat, and saw and not once did they have an opportunity to assert themselves in a heckling manner. They found that the Warner Bros.—Harry M., Jack L., Sam and Albert—had pulled a big stroke which marks a turning point in the history of the motion pictures and theatre entertainment.

Many thousands have already seen "Don Juan" during the eight-week subway at Grauman's in connection with the Sid Grauman roadshow prices. Those same people

(Continued on Page 2)

JUST CURIOUS

A woman stopped up to the box office of the Egyptian Theatre a few days before the opening of "Don Juan" and Vitaphone, and asked the treasurer: "Is Vitaphone a new kind of refrigeration?"

(Continued on Page 4)

NEW ERA IN PICTURES, SAYS HAYS OF THE VITAPHONE

M. P. Czar First Man to Address Public Through New Device—Welcomes Synchronized Music as Big Advance in Industry—Sees Great Possibilities

ACKNOWLEDGE THANKS

In an aftermath of the sensation and thrill which came in the Pacific coast premiere of Vitaphone with John Barrymore in "Don Juan" at Grauman's Egyptian Theatre tonight, a most significant note was reached by the Warner Bros. Pictures, Inc., when they extended their thanks for the unusual and given them by the Metropolitan Opera Company and the Victor Talking Machine Company in the selection of Marie Timan, Marion Talley and Giovanni Martinelli to be the first world-famous artists to appear on the Vitaphone.

SELL OUT FOR OPENING OF VITAPHONE

Music Lovers Crowd Grauman's Egyptian to Hear First Performance

Motion picture crowds in the past have been much the same for all premiere picture showings in Los Angeles and Hollywood. They have been easily distinguishable from the first-night audiences at legitimate attractions. They have been made up largely of stars, directors, film executives and exhibitors.

It remained for Warner Brothers to spring a great a novelty with their opening crowd at Grauman's Egyptian tonight as they did with their Vitaphone, which was having its premiere in connection with the screening of the road show attraction, John Barrymore in "Don Juan."

Not in the history of Los Angeles' legitimate or picture openings has such a cosmopolitan gathering taken on hand as was present tonight. It was made up not of those professional applauders whose presence is considered necessary to help put some shows over. It was not a gathering exclusively of film folk. Film executives were there in good-

(Continued on Page 4)

- Vitaphone will motion pictures of the future, dent of the Motors and Distributors, welcomed the industry at Grauman's Egyptian theatre tonight, premiere presentation of John Barrymore in "Don Juan."

Mr. Hays Vitaphone, and it as clearly ex- rated in person, demonstration of the speaking ening, the revolutionizing of en- tertainment. Mr. Hays said:

"My friend- "No story o screen is as e of the screen. "Tonight w- ter in that story

"For, indeed, have we advanced lower than few seconds of shadow of a serpentine dancer thirty years ago when the motion picture was born—by this public demonstration of the Vitaphone synchronizing the reproduction of sound with the reproduction of action.

"The future of motion pictures is to be firing as all the tomorrows, rendering greater and still greater service to the chief amusement of the majority of all our people and the sole amusement of millions and millions, exercising an immeasurable influence as a living, breathing thing on the likes and ideals, the customs and customs, the hopes and ambitions of countless men, women and children.

"In the presentation of these pictures, music plays an invaluable part. The motion picture is a most potent factor in the development of

(Continued on Page 6)

BATHING BEAUTY SCORNED $200 NOW SIGNS AT $85

Toronto, Oct. 26.

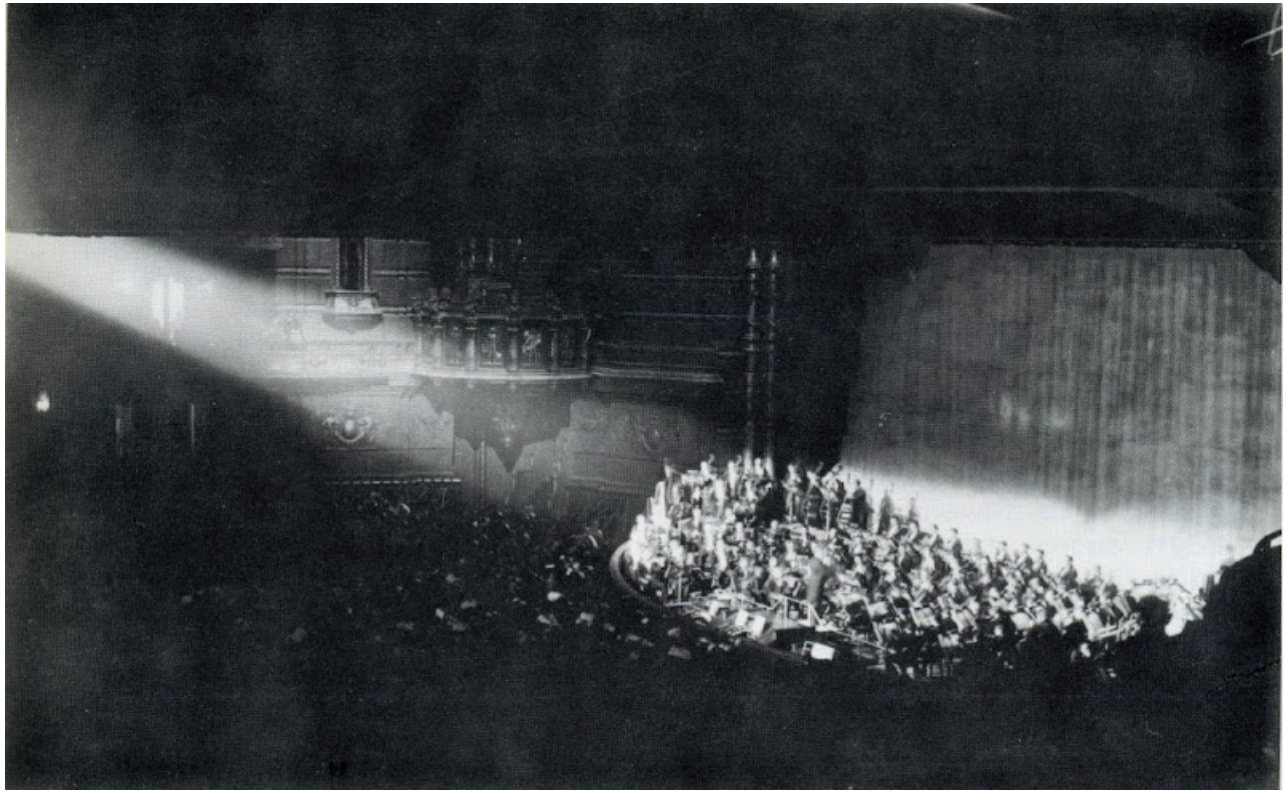
Jean Fred Tobias, "Miss Toronto" at Atlantic City beauty pageant, has signed two theatrical contracts. The first is for one week at $200 in the Uptown (vaudeville), the second for 26 weeks at $85 in "Captain Al Plunkett's Revue," a musical piece now in rehearsal.

Before going to Atlantic City Miss Tobias was offered $300 a week for two weeks at Loew's. She said it was not enough, but being as she ran in Jersey made a difference. Donald Gundy, newspaper man, is her manager.

Film moguls held firmly to the belief that silent pictures represented an art form which had reached the apex of its perfection. It did not hurt that pictures without voices could be exhibited in any country by the mere translation of title cards.

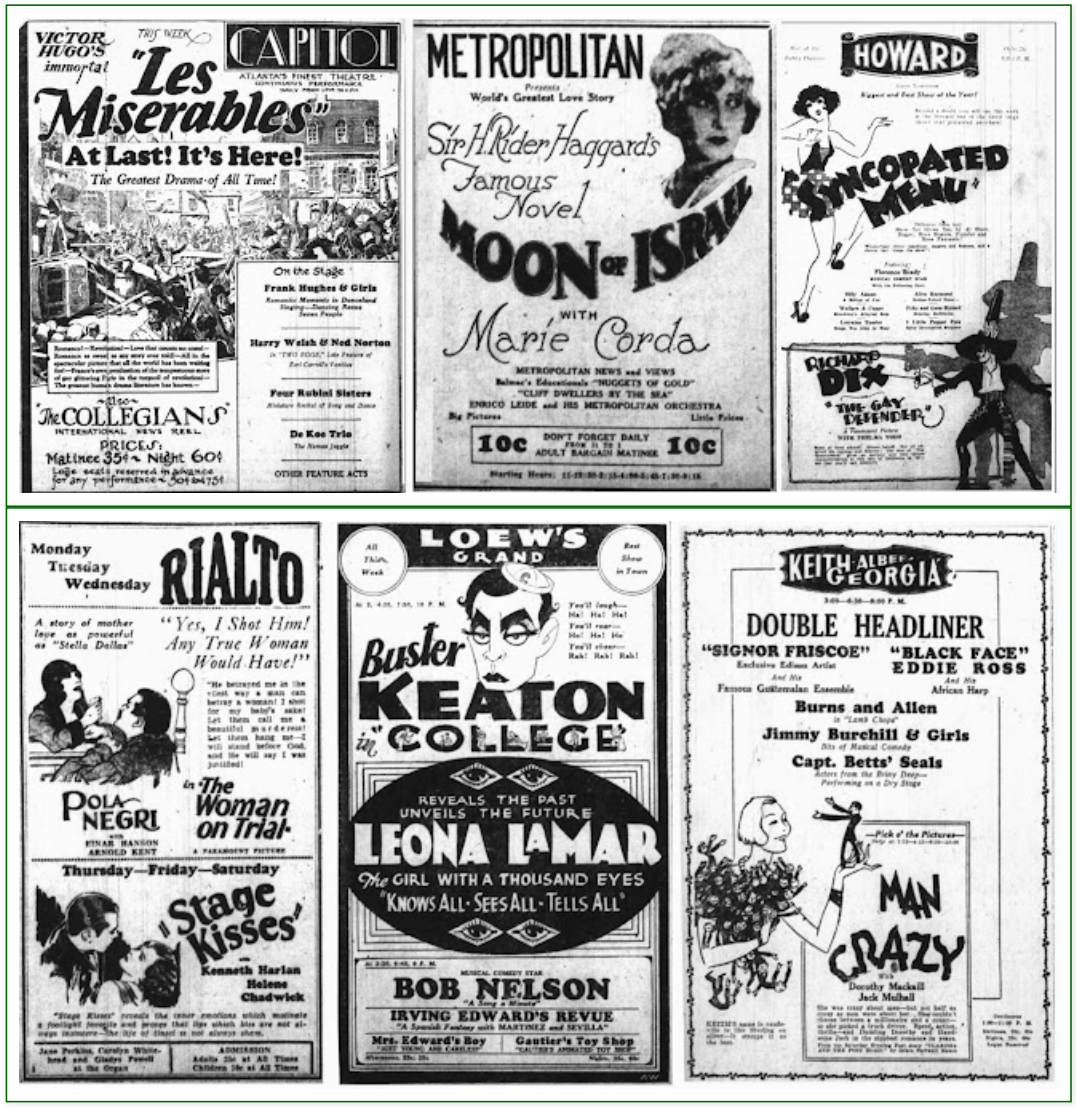
Courtesy busterstuff.com

Talkies did not transform the film business overnight, because so few sound pictures were available to run. The New York Roxy, with a sound-equipped booth from its start in March, 1927, opened with a silent. Patrons had to make do with the 110-piece pit band.



Courtesy filmusik.com

Warners released only three talkies in 1926, six in 1927, and twenty in 1928. In 1929 with new east and west coast facilities up to sound speed, they released a staggering roster of seventy features. To satisfy the short-term hunger for sound, Warners produced some 600 Vitaphone one-reelers during those years.

Talking pictures would kill vaudeville and put thousands of show folk out of work just as the Depression began. At the end of 1927, four of the six Atlanta downtown houses featured stage shows and all but one had a house orchestra. Burns and Allen (lower right) played Keith's Georgia that first week of December, 1927.

VICTOR HUGO'S immortal "Les Miserables"
CAPITOL
ATLANTA'S FINEST THEATRE
At Last! It's Here!
The Greatest Drama of All Time!
On the Stage
Frank Hughes & Girls
Harry Welsh & Ned Norton
Four Rubini Sisters
De Koe Trio
OTHER FEATURE ACTS
also
The COLLEGIANS
INTERNATIONAL NEWS REEL
PRICES:
Matinee 35¢ - Night 60¢
Loge seats reserved in advance for any performance - 50¢ and 75¢
METROPOLITAN
World's Greatest Love Story
Sir H. Rider Haggard's Famous Novel
MOON OF ISRAEL
WITH
Marie Corda
METROPOLITAN NEWS and VIEWS
Balboa's Educationals "NUGGETS OF GOLD"
"CLIFF DWELLERS BY THE SEA"
ENRICO LEIDE and HIS METROPOLITAN ORCHESTRA
10c
DON'T FORGET DAILY FROM 9 TO 1 ADULT BARGAIN MATINEE
10c
HOWARD
SYNCOPATED MENU
RICHARD DIX
"THE GAY DEFENDER"
Monday
Tuesday
Wednesday
RIALTO
A story of mother love as powerful as "Stella Dallas"
"Yes, I Shot Him! Any True Woman Would Have!"
"He betrayed me in the worst way a man can betray a woman! I shot for my baby's sake! Let them call me a beautiful names—I will stand before God, and He will say I was justified!"
POLA NEGRI
with
EINAR HANSON
ARNOLD KENT
in The Woman on Trial
A PARAMOUNT PICTURE
Thursday—Friday—Saturday
Stage Kisses
with
Kenneth Harlan
Helene Chadwick
"Stage Kisses" reveals the inner emotions which motivate a footlight incogito and proves that life which kiss are not always inconsequence—the life of stage is not always show.
Jane Perkins, Carolyn Whitehead and Gladys Powell at the Organ
ADMISSION
Adults 25c at All Times
Children 10c at All Times
LOEW'S GRAND
All This Week
Best Show in Town
Buster KEATON in "COLLEGE"
REVEALS THE PAST
UNVEILS THE FUTURE
LEONA LAMAR
The GIRL WITH A THOUSAND EYES
"KNOWS ALL · SEES ALL · TELLS ALL"
MUSICAL COMEDY STAR
BOB NELSON
"A Song a Minute"
IRVING EDWARD'S REVUE
"A Spanish Fantasy with MARTINEZ and SEVILLA"
Mrs. Edward's Boy
"JUST YOUNG AND CAREless"
Gautier's Toy Shop
"GAUTIER'S ANIMATED TOY SHOP"
KEITH-ALBEE GEORGIA
DOUBLE HEADLINER
"SIGNOR FRISCOE"
Exclusive Edison Artist
And His
Famous Guatemalan Ensemble
"BLACK FACE" EDDIE ROSS
And His
African Harp
Burns and Allen
in "Lamb Chops"
Jimmy Burchill & Girls
Bits of Musical Comedy
Capt. Betts' Seals
Actors from the Briny Deep—
Performing on a Dry Stage
—Pick o' the Pictures—
MAN CRAZY
with
Dorothy Mackaill
Jack Mulhall

Even in smaller towns like Atlanta, orchestral accompaniment for silent pictures was the rule, not the exception. House orchestras in Atlanta movie houses came into being between 1905 and 1911. The ad below for Atlanta's Montgomery Theatre dates from 1912.

MONDAY TUESDAY

SARAH BERNHARDT

The "Divine Sarah" and Her All-Star Company in

The Most Gorgeous Photo-Play

QUEEN ELIZABETH

IN FOUR PARTS

$250,000 Production

4,000 Ft. of Exquisite Photography

The Most Stupendous Play Ever Shown in Atlanta

THE QUEEN'S DEATH.

"Queen Elizabeth is the supreme effort of my life."
—Sarah Bernhardt.

LORD ESSEX'S DEPARTURE.

25c Admission to See Queen Elizabeth

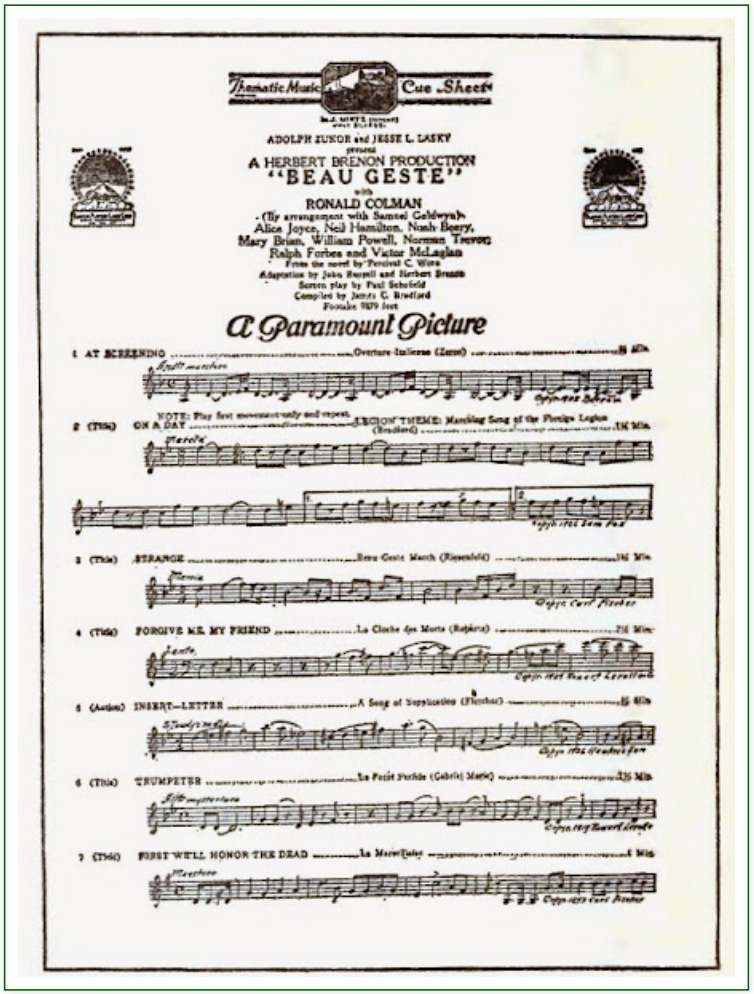
SPECIAL MUSICAL PROGRAM Rendered by Five-Piece Orchestra

Special music is used in connection with "Queen Elizabeth." The score is of great elaborateness and follows the line of the story in surprising degree. The splendid five-piece orchestra will render music that is worth the price of admission itself.

MONTGOMERY

THE MOVING PICTURE MAN

Silent features were scored and orchestrated by the studios.



Thematic Music Cue Sheet

ADOLPH ZUKOR and JESSE L. LASKY
present
A HERBERT BRENON PRODUCTION
"BEAU GESTE"
with
RONALD COLMAN
(By arrangement with Samuel Goldwyn)
Alice Joyce, Neil Hamilton, Nosh Beery,
Mary Brian, William Powell, Norman Trevor,
Ralph Forbes and Victor McLaglan
From the novel by Percival C. Wren
Adaptation by John Russell and Herbert Brenon
Screen play by Paul Schofield
Compiled by James C. Bradford
Footage 9270 feet

A Paramount Picture

1 AT SCREENING ..... Overture Italienne (Lecocq) ..... 8 Min.

2 (Title) ON A DAY ..... LEGION THEME: Marching Song of the Foreign Legion (Brandon) ..... 1½ Min.

3 (Title) STRANGE ..... Beau Geste March (Rosenfeld) ..... 1½ Min.

4 (Title) FORGIVE ME, MY FRIEND ..... La Cloche des Morts (Roberts) ..... 2½ Min.

5 (Action) INSERT—LETTER ..... A Song of Supplication (Fletcher) ..... 1½ Min.

6 (Title) TRUMPETER ..... La Petit Parisie (Gabriel Marie) ..... 3½ Min.

7 (Title) FIRST WE'LL HONOR THE DEAD ..... La Marseillaise ..... 1 Min.

Talking pictures debuted in Atlanta at the locally-owned Metropolitan Theatre nine months after New York in May, 1927. The feature "Lady in Ermine" was a silent, accompanied by Enrico Leide's band; the shorts were "in sound."

ATLANTA'S
METROPOLITAN
OWNED AND DIRECTED BY ATLANTA CITIZENS
Southern Premiere Presentation
Musical Marvel of the Age
VITAPHONE
ON THE SCREEN
Corrine Griffith in The Lady in Ermine
WITH
FRANCIS X. BUSHMAN AND EINAR HANSON
News and Views
The World's Greatest Entertainment At No Advance In Prices
VITAPHONE PRESENTATION
UNIT ONE
WILL HAYS
UNIT TWO
OVERTURE
TANNHAUSER
N.Y. PHILHARMONIC ORCHESTRA
UNIT THREE
Mm. SCHUMANN-HEINK
VOCAL SOLO
UNIT FOUR
GUS VAN & JOE SCHENCK
COMEDY & POPULAR SONGS
ENRICO LEIDE AND THE FAMOUS METROPOLITAN ORCHESTRA
EVERY PERFORMANCE A COMPLETE DE LUXE VITAPHONE PRESENTATION
11 A. M.—12:30—2:15—4:00—5:45—7:30—9:15
It Is Advisable That Those Who Can Should Arrange to Attend One of the Early Shows.
Bargain Matinee Daily—11 A. M. to 1 P. M.—25 Cents

In mid-1926, William Fox licensed from inventor Theodore Case a variable-density sound-on-film process, which Fox named Movietone. In May, 1927 Western Electric began theatre installation of machines which could play both formats.

January 14, 1927 133

Fox-Case and Vitaphone in Joint Arrangement

Licenses Exchanged, Making it Possible for Theatres to Show Both Types of Talking Picture; Use Same Amplifiers

THE Vitaphone Corporation and the Fox-Case Corporation announced on Thursday that they had entered into a contract by the terms of which the Vitaphone has licensed the Fox-Case Corporation to produce the so-called talking motion pictures under the system developed by the Western Electric Company.

The majority stock in the Fox-Case Corporation is jointly owned by the Fox Film Corporation and the Fox Theatres Corporation. The product of this new company will be distributed by the Fox Film Corporation and will be known as "Movietone."

The Vitaphone Corporation will continue to license exhibitors to reproduce synchronized pictures, and Fox-Case plans to distribute its pictures to theatres so licensed by Vitaphone and having Vitaphone equipment installed. Reciprocally and by the same agreement the Fox-Case Corporation has granted the Vitaphone Corporation licenses under its patent and patent applications and the right to use the method devised by it.

To Continue Developments

It is understood that the Western Electric Company intends to continue its development work and arrangements for the purpose of maintaining the position of the Vitaphone equipment and to lead to [illegible] equipment. The agreement is subject to change by the Vitaphone Corporation for their [illegible] here. The Vitaphone Corporation made a [illegible]

to increase their activities along this line so that there will be made available to theatres in which Vitaphone equipment is installed the productions of both the Vitaphone and Fox-Case studios. Arrangements have been made with artists of such a comprehensive character as to assure programs of wide variety and interest.

Fox-Case and Vitaphone differ materially, Fox-Case recording and reproducing sound photographically and Vitaphone phonographically. Both systems require for their highest development the use of Western Electric recording and reproducing units.

Fox Comments On Possibilities

Commenting on the possibilities of this new field, William Fox said: "Heavy responsibility rests on those whose happy fortune it is to have the opportunity of public service through this new art.

"This amazing accomplishment, now perfected, certainly is destined to have far-reaching influence in the world. Its influence will be felt not only in motion picture theatres everywhere, but in 150,000 churches for religious purposes, and in 270,000 schools for educational purposes, and in motion pictures and the birth of the Vitaphone.

"It is my sincere belief that the Vitaphone, in the course of a short time, will play not only the greatest part in the entertainment of the public, but will be one of the greatest forces directed toward educational advancement. Not only will it be used in synchronizing music to pictures, but legitimate drama, comedies and operas will be produced by the Vitaphone and reproduced in theatres throughout the world.

"I always believed Mr. Fox was a great showman, but now I am more than convinced that he has even a greater foresight as to the future of the motion picture entertainment."

A.M.P.A. Discusses Newspaper Rates

Discussion of proposed revision of newspaper rates to give amusements the same price scale enjoyed by other industries was the chief business of the A.M.P.A. at Thursday's meeting. H. M. Newman, publisher of "The Fourth Estate," which is advocating rate revision, was the principal speaker. A committee is to be named to represent the A.M.P.A. in the campaign.

Uni-

Ex-

Peac

D

In China, Pearock has just taken over management and control of the Palace Oriental in Shanghai, which has about 800 seats. The company also operates a house in Tsinanfu.

the organization and thus the major problems of the industry could be laid before them and solutions agreed upon.

Courtesy fingerlakesmucicaltheatre.wordpress,com

Fox unveiled the first talking newsreel at the Roxy in April, 1927, and in December Fox Movietone News commenced regular release.

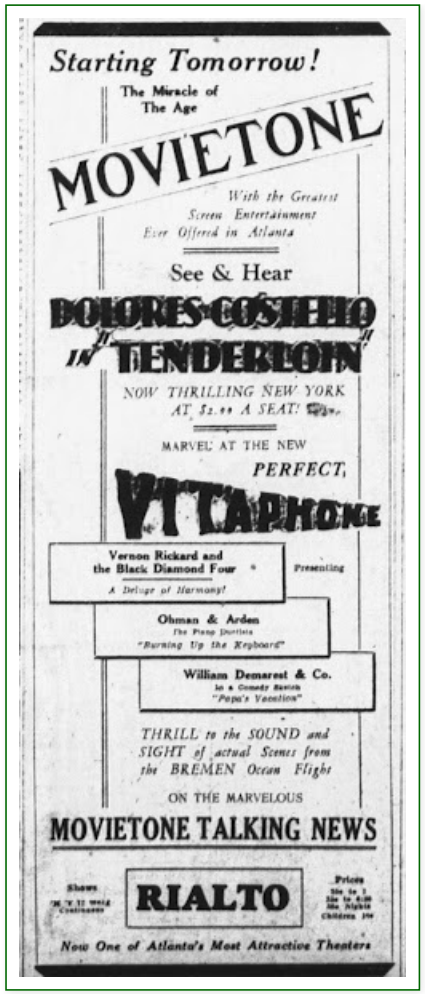
FOX MOVIETONE NEWS
The first sound news-reel in the field is still the first in performance
FOX MOVIETONE NEWS COVERS THE EARTH
There's not an interesting sight or sound in this world of ours that escapes FOX MOVIETONE NEWS
50
SOUND UNITS AROUND THE WORLD
ISSUED TWICE WEEKLY

In November, 1927 Fox released the first feature film utilizing the Movietone process.

By March, 1928 more than two hundred theatres in the US had been equipped for talkies. Warner Brother's Vitaphone feature of that year "The Jazz Singer" included "talking and singing sequences, musical score and sound effects," and the presence of Al Jolson provided an enormous boost to sound films. William Fox, who owned the Roxy, didn't mind making money from Vitaphone, even if it belonged to the competition.

ROXY, the master showman, captures the greatest attraction in the world for the greatest theatre in the world.....
...BEGINNING MARCH 24th
AL JOLSON
in
"The JAZZ SINGER"
ROXY THEATRE
First run in New York following the 25 week twice daily engagement at the WARNER THEATRE
And day and date in 234 other theatres throughout the country....
WARNER BROS. SUPREME TRIUMPH

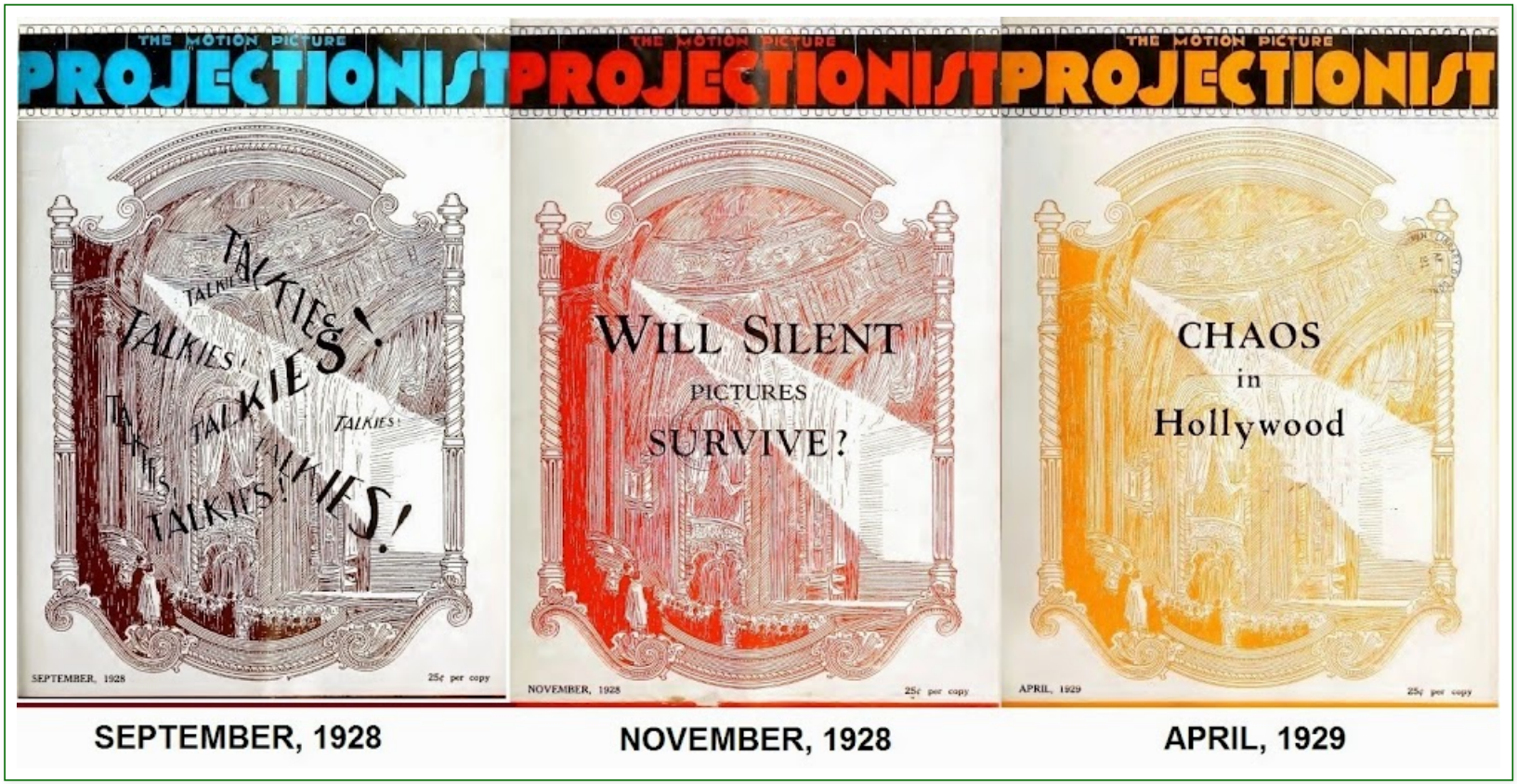
Two months later, the Movietone process debuted in Atlanta at the Rialto.



July, 1928 brought the first all-talking picture, two years after "Don Juan."

Courtesy pinterest.com

Consternation reigned within the business.



Wishful thinking, mid-1929.

Possibly the best theatre organ ad ever, displaying thirty-nine of the infinite emotions that this machine could express, when properly operated.

Pit musicians and organists were dropped off payrolls like flies, and ads such as below (left) placed by national musician's union did nothing to stanch the flood of firings. The careers of countless players abruptly ended, and boys who knew radio "took their place."

BANISH MUSIC?

"PLEASE don't," plead millions of theatregoers.

"Better not," warn wise showmen.

"Sure we will," declare industrialists who control canned music in the theatres. "The public can learn to like records as well as orchestras. Anyway, that's what they're going to get."

And so the issue is defined: Shall talking pictures be used as an excuse for reducing the theatre to a dehumanized museum (without reduction in admission charge). Or, shall the atmosphere of the theatre be retained and the cause of culture served through a victory for music?

The Music Defense League, organized to voice the public's desire for real music, is gaining tremendous strength. Each vote counts more today than ever before.

If you would like to see music restored to the theatres, SIGN AND MAIL THE COUPON BELOW.

THE AMERICAN FEDERATION OF MUSICIANS

Comprising 140,000 professional musicians in the United States and Canada

JOSEPH N. WEBER, President
1440 Broadway, New York, N. Y.

EH-T 5

AMERICAN FEDERATION OF MUSICIANS
1440 Broadway, New York, N. Y.

Gentlemen: Without further obligation on my part, please enroll my name in the Music Defense League as one who is opposed to the elimination of Living Music from the Theatre.

Name .....

Address .....

City ..... *State* .....

Thousands of Positions *Open Right Now* at *Salaries Ranging*

UP to $200.00 *per* WEEK

for MOTION PICTURE SOUND Engineers

WE are in contact with chain theatres and manufacturers of Sound equipment who desire the services of competent sound men as engineers, projectionists, installation and service men. Our employment department will assist you in making a profitable connection free of charge.

GUARANTEE

Our guarantee insures you that if you enroll as one of our students and take advantage of the many opportunities that your membership entitles you to your increased income will pay the tuition of the course many times. We unconditionally guarantee that if for any reason you are dissatisfied (you being the judge) we will refund every cent you have paid.

Due to the fact that radio and sound are so closely allied, men with radio experience are the most adaptable.

POLICY

Our course on Sound Projection which is prepared by the most eminent authorities on Electrical Acoustics will qualify you for a Profession whose place in the engineering world is second to none. All of the available knowledge of the art and the underlying fundamental principles of sound is given to you in an everyday, plain-talk language, as well as two weeks' practical training in the operation, servicing and installation of Sound Equipment.

DEMAND

In the 20,000 theatres throughout the United States and Canada, which now employ approximately 50,000 projectionists, it is estimated that a very small per cent of this number are qualified to fill the position as Sound operators. Many thousands of new men will have to be taken into this field as fast as the many thousand unwired theatres are wired for sound as the additions of sound doubles the number of operators required. This condition will create many thousands of positions at salaries up to $200.00 per week.

The tuition for these courses is very reasonable and is payable in easy installments as you study. Also you have the added convenience of studying at home in your spare time. Fill out and mail the coupon below today for special scholarship proposition.

Mail Coupon for Free Information

PROJECTIONIST SOUND INSTITUTE

F. A. JEWELL, Gen. Mgr.

P. O. Box No. 28, Easton, Pa.

PROJECTIONIST SOUND INSTITUTE,
P. O. Box No. 28, Easton, Pa. R. N.-12

Gentlemen:
Please send me, by return mail, full details of your Special Scholarship Proposition on Sound Projection.

Name .....

Address .....

City ..... State .....

Warner Brother's had become very wealthy. They acquired First National Pictures and converted their Burbank lot to Vitaphone.

FIRST NATIONAL
VITAPHONE
FIRST NATIONAL will march to new conquests under The Star Spangled Banner—
VITAPHONE Pictures
THE FLAG OF ALL NATIONS
Add to the supreme star, story and production values of First National pictures the first, finest and most famous of all sound accomplishments— VITAPHONE—and you have the most wonderful buy.
Every First National picture will be 100% Vitaphone. Every First National star will be two stars in one. When stars like First National's speak via Vitaphone, the whole world listens.
VITAPHONE
First National
VITAPHONE
THE BEST
ADVERTISING
THEME SONGS
COMPOSERS

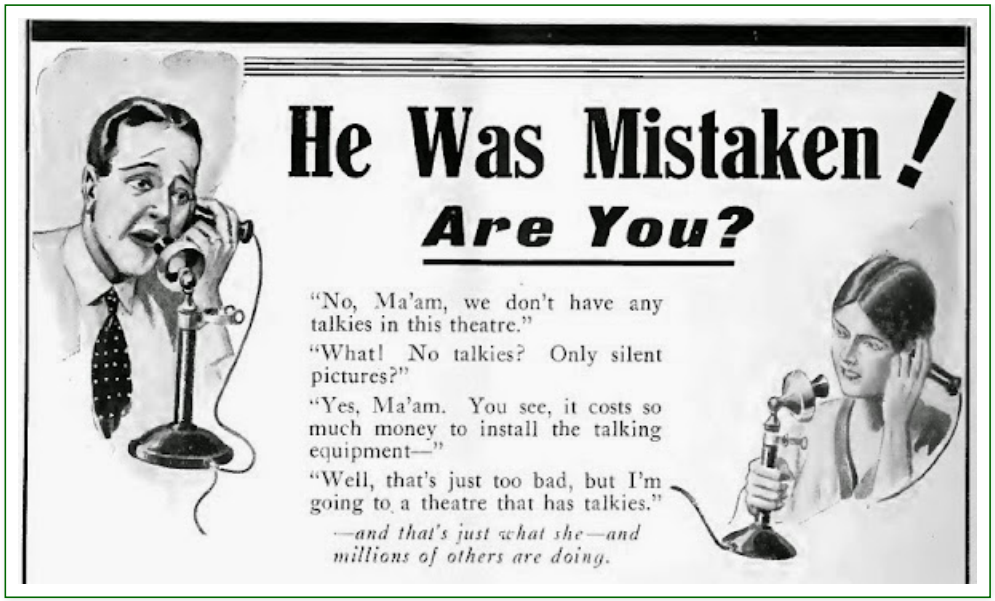
Other studios licensed the Vitaphone process from Warners on an experimental basis. MGM's "Broadway Melody" was the first talkie to take Best Picture.

THE BROADWAY MELODY
ALL TALKING - ALL DANCING - ALL SINGING
In a night she had become the toast of Broadway
A Metro-Goldwyn-Mayer PICTURE

Courtesy pbs.org

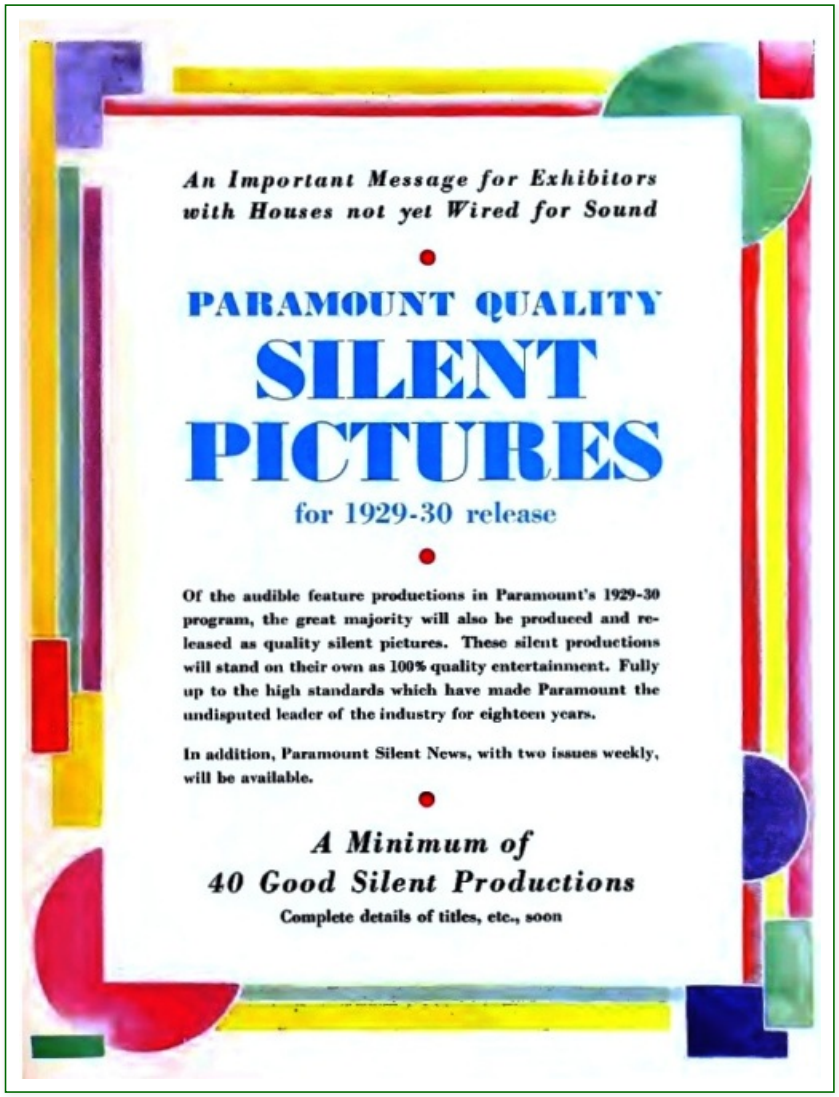
In January, 1929, the first all-talking Movietone feature coincided with the end of silent production on the Fox lot. What had begun as a flake had become an avalanche. However, the leading man appears to have everything well in hand.

Silent picture production was gone with the wind.


He Was Mistaken!
Are You?
"No, Ma'am, we don't have any talkies in this theatre."
"What! No talkies? Only silent pictures?"
"Yes, Ma'am. You see, it costs so much money to install the talking equipment—"
"Well, that's just too bad, but I'm going to a theatre that has talkies."
—and that's just what she—and millions of others are doing.

Silent were toast.

Silents were washed up.


An Important Message for Exhibitors with Houses not yet Wired for Sound
PARAMOUNT QUALITY
SILENT PICTURES
for 1929-30 release
Of the audible feature productions in Paramount's 1929-30 program, the great majority will also be produced and released as quality silent pictures. These silent productions will stand on their own as 100% quality entertainment. Fully up to the high standards which have made Paramount the undisputed leader of the industry for eighteen years.
In addition, Paramount Silent News, with two issues weekly, will be available.
A Minimum of 40 Good Silent Productions
Complete details of titles, etc., soon

Screen and stage attractions changed weekly, and the major studios each cranked out 52 films a year. The first week program at the Atlanta Fox (inset) featured Fanchon & Marco's Beach Nights Idea on the stage and Enrico Leide's house orchestra in the pit. The screen program included the all talking Fox feature "West Point," Fox Movietone News, and the first Mickey Mouse cartoon, with synchronized score and sound effects. The second week marquee stressed a Fox "All-Dialogue-Comedy."

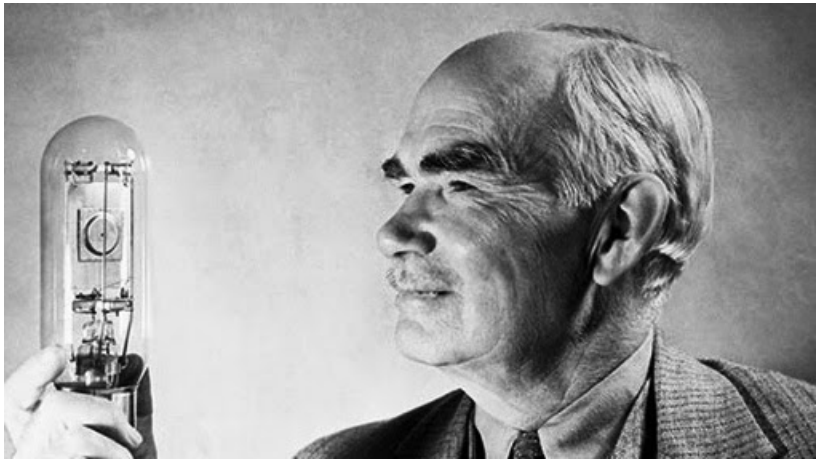
The first two picture to play the Atlanta Fox, both Movietone and both in 1929.

WILLIAM FOX
presents
SALUTE
Directed by
JOHN
FORD
"Are you any relation to Kay-det Randall, the Pride of the Army?"
"His brother, sir."
"Show us what will happen to your fire-eating brother when he plays against the Navy."
Now, Folks, Will Rogers Talks In Your Theatre
WILL ROGERS
America's best known talking comedian
Now gives you an earful of homespun philosophy
They HAD to SEE PARIS
presented by
WILLIAM FOX
production values

Although William Fox was the progenitor of sound-on-film and the Warner brothers the true pioneers of talking pictures, it was Western Electric that made talkies possible.

MAKING A SOUND PICTURE
with Western Electric Equipment
SILENCE in the studio! The director discards his megaphone, cameras whir in sound-proof booths.
In the sound-proof "monitor room" a man at the control board regulates the volume and quality of sound recorded by Western Electric apparatus on a film or disc.
Hear Sound Pictures at their best—go to a Western Electric equipped theatre
Sound Pictures, made by the eleven great producers who have adopted the Western Electric system, are naturally best when reproduced in theatres with equipment from the same source.
That is why exhibitors everywhere, mindful of their patrons' satisfaction, either have installed or are now installing the Western Electric system—the sound equipment that assures clear and natural tone, that reflects a half century's experience in making telephones and other apparatus for reproducing sound.
(Photographs courtesy of Paramount)
Western Electric builds special microphones for studio requirements.
The "monitor" controls quality and volume of all sound recorded.
Western Electric-made apparatus insures true-tone reproduction.
Theatre loud speakers, product of acoustical experts and craftsmen.
The projector which plays the sound picture in the theatre.
Western Electric
THE VOICE OF ACTION
SOUND SYSTEM

In 1914 Western Electric perfected the first audio amplifier to facilitate long-distant telephony for its parent, the Bell Telephone Company. Western had licensed the invention of a vacuum tube that could amplify current from Lee de Forest, shown below with his Audion.



Courtesy prezi.com

Western Electric sought further commercial applications for their amplifier, first concentrating their efforts on public address, for which they had to invent both a practical microphone and a loudspeaker. First demonstrated in 1920, the PA was touted in the 1923 ad.

At Atlantic City---
--an Auditorium 2000 Feet Long
Atlantic City's Boardwalk from Michigan Avenue to Kentucky Avenue was turned into an auditorium Saturday, January 27th.
The occasion was an entertainment by the National Exhibitors. Their program including speeches by Atlantic City's Mayor, E. D. Bader, Commissioner of Public Safety, W. Cuthbert and President S. P. Leeds of the Chamber of Commerce, a vocal solo by Maria Samson and a piano recital by Alexander Gunn.
Through the projectors (indicated by circles in the above pictures) of the
Western Electric
Public Address System
mounted on the Brighton and the Traymore and along the Boardwalk every limitation to the carrying power of the human voice and the piano was removed. And as far as those on over 2,000 feet of the Boardwalk were concerned they heard as if they were within fifty feet of the entertainers.
An extension of the System would have made the entertainment clearly audible from end to end of the Boardwalk.
Amplification of entertainments is only one of the services a Western Electric Public Address System renders. It has a place in the quick, accurate distribution of information in the City Police, Fire and Educational Department.
Ask for Bulletin 672. Address this Company at 110 William Street, New York, N. Y.
Since 1869 Makers of Electrical Equipment
Western Electric Company
110 William Street
New York City

Western was a prime developer and manufacturer of broadcast amplification, mixing, and transmission equipment. Below, local air personality Lambdin Kay, shown here in 1923 with a Western 1-B microphone, at WSB, Atlanta's first radio station.

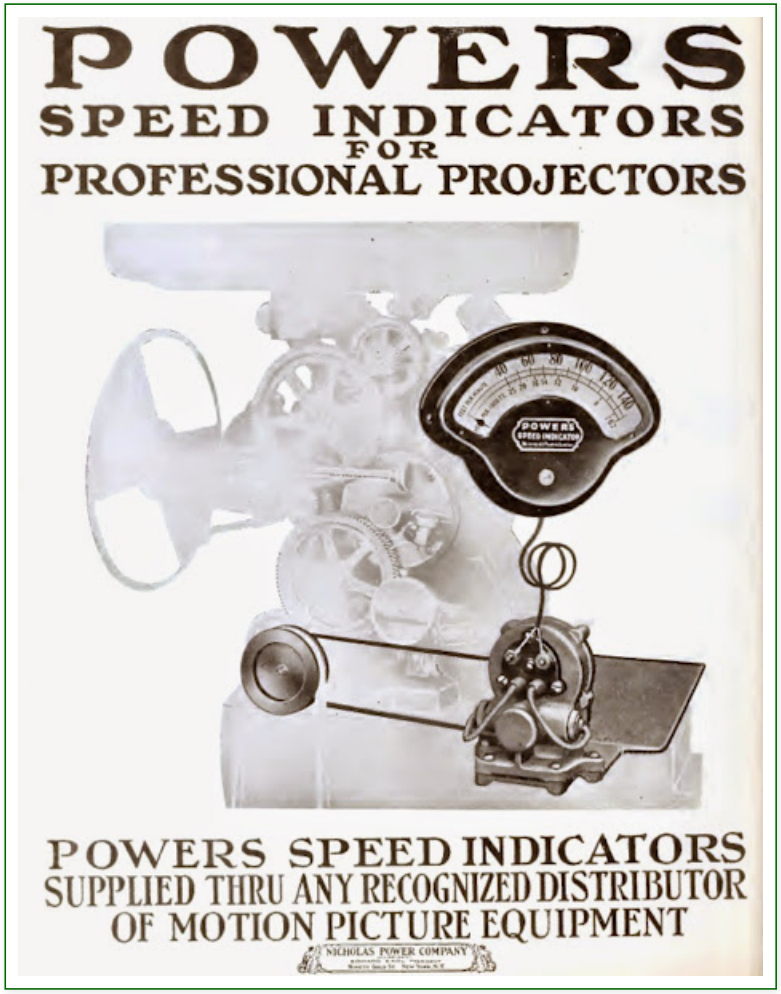
With microphone, amplifier, and loudspeaker in commercial use, Western turned to disc recording. In 1925 they perfected the first electric recording, as opposed to the primitive acoustical method then in use. The two major recording companies immediately licensed the Westrex recording process, and horn recordings became a thing of the past.

Courtesy aes.org, wikipedia.com

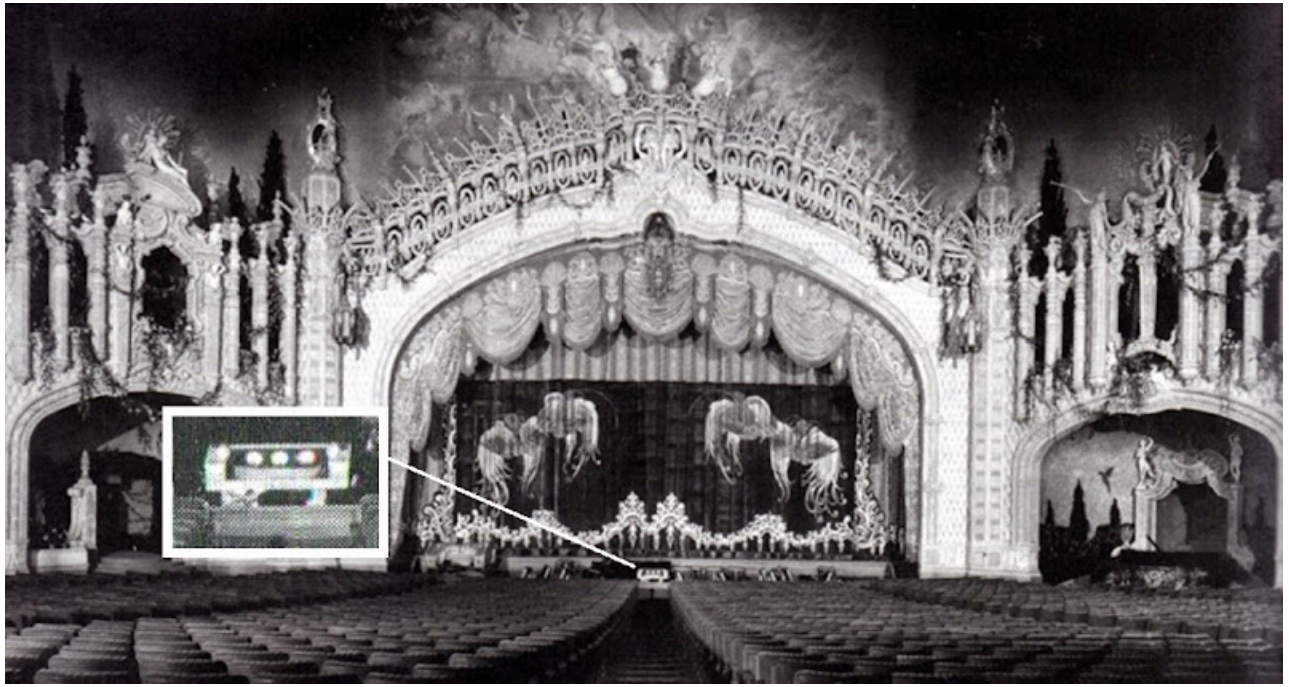
In 1925, Warner Brothers whose new radio station KFWB, equipped by Western Electric, was given a demonstration of the synchronized sound process, and in June the Vitaphone Corporation was formed as a joint venture. In Warner's newly-acquired Brooklyn Vitagraph facility, they worked together to adapt the recording equipment to the demands of actual motion picture production.

Courtesy fineartamerica.com

An early stumbling block was sound speed, which had to match perfectly in both photography and exhibition. According to the 1916 *Motion Picture Handbook*, the suggested standard for silent film was 60 feet per minute at a time when most cameras were hand-cranked, but other sources claim 60 as "the taking speed" and 90 as the "showing speed." Harold Franklin's 1927 book *Motion Picture Theatre Management* states "the speed or running time for any film is established when it is pre-viewed in the screen room." Motorized projectors were equipped with variable speed controls.



Some theatres, such as the built-for-silents Chicago Paradise (1928-1956), gave projector speed control to the orchestra leader so he could adjust the film's tempo to that of the band, rather than vice-versa. Inset shows the indicators for each of the three machines on the leader stand.

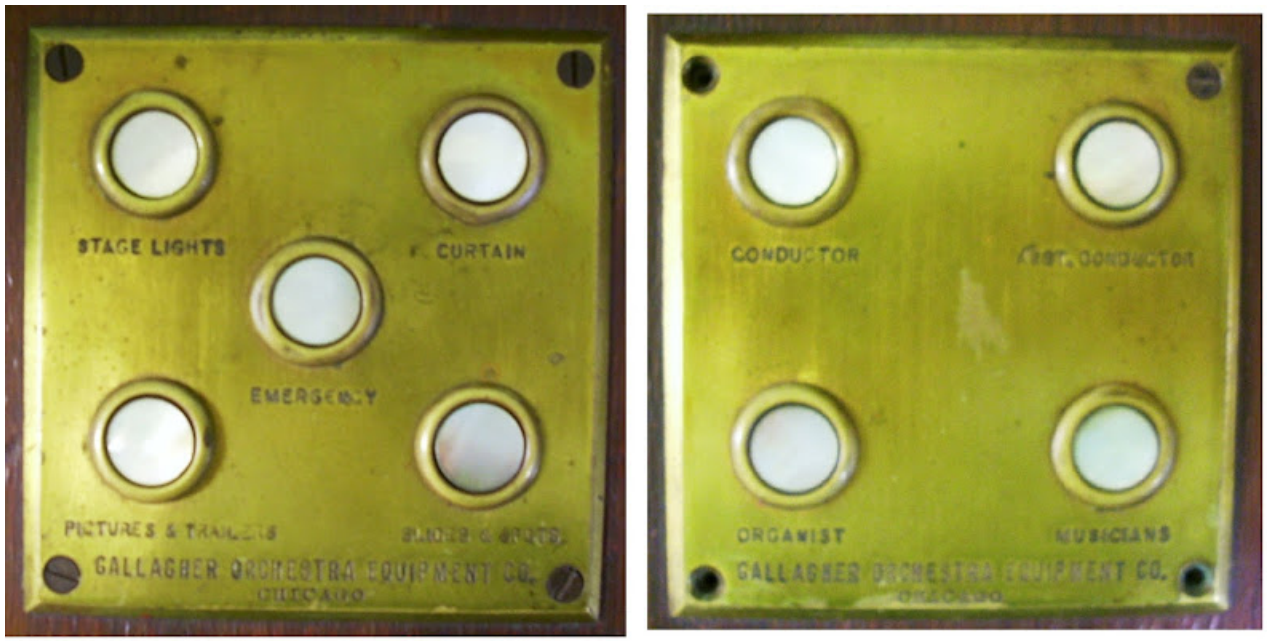


Courtesy, Ben Hall

A closeup view of the Leader Stand from the Chicago Granada (1926-1990), showing the Peter Clark lift controls and the three speed indicators, one in closeup on right.

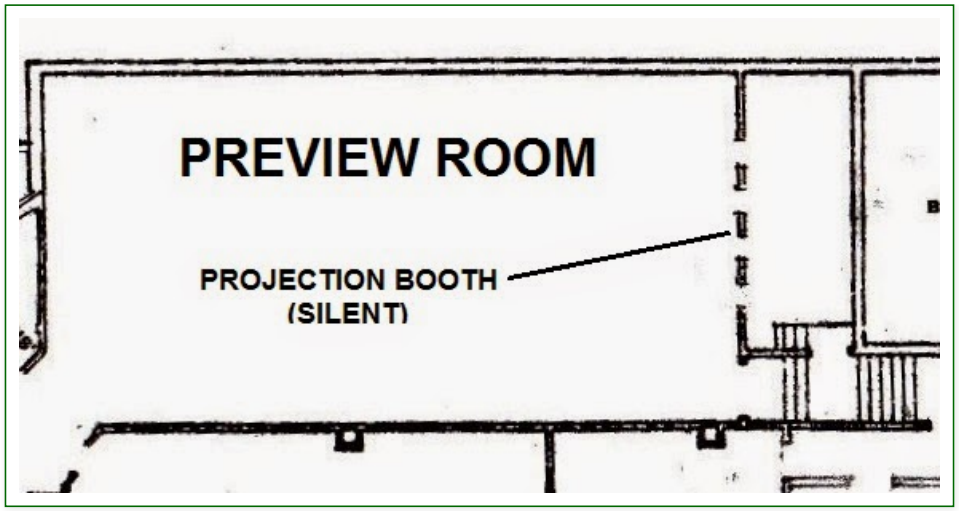
Courtesy Patrick Seymour, Theatre Historical Society

Besides a telephone, two sets of pushbutttons were mounted on the Granada stand, which allowed the Leader to control the show. The left bank would buzz the Stage Switchboard, the Curtain, "Emergency" (maybe the manager), and two buttons for the booth: "Pictures and Trailers" and "Slides and Spots." The right bank are dressing room call buzzers.



Courtesy Patrick Seymour, Theatre Historical Society

The Atlanta Fox, designed during the transition from silents to talkies, included a preview room and fully-equipped projection room for the purpose of rehearsing the orchestra as the film unreeled. The booth contained two Simplex machines with incandescent lamp houses, rewind table and film cabinets, but no sound apparatus. From the start, the Fox ran only talkies, so it is likely that the booth was never utilized.



Western and Warners agreed to a sound speed of 24 frames per second, or 90 feet of film per minute, one-third faster than silents. For a camera reel which ran ten minutes, Western devised a 16" diameter disc played at 33 1/3 revolutions per minute (RPM).

Courtesy, The Dawn of Sound

What later was termed a transcription disc is lovingly held here by Mrs. Irving Thalberg a/k/a Norma Shearer.

Courtesy picking.com

Westrex recordings which were produced on lathes anchored to heavy bases to obviate vibration were hardly suitable for use in a chaotic studio.

Courtesy stokowski.com

The process was cumbersome, to say the least. From a 1929 trade article about New York City sound stages:

Scenes Rehearsed in Sound

Scenes are rehearsed in sound without the camera and then played back without the disc. Recording is done on three discs simultaneously. One is destroyed and the other two are processed. Playing back will ruin any disc. The great wax plates come an inch and a half thick, weigh eighteen and a half pounds and can be shaved down and re-used until they are half their original thickness.

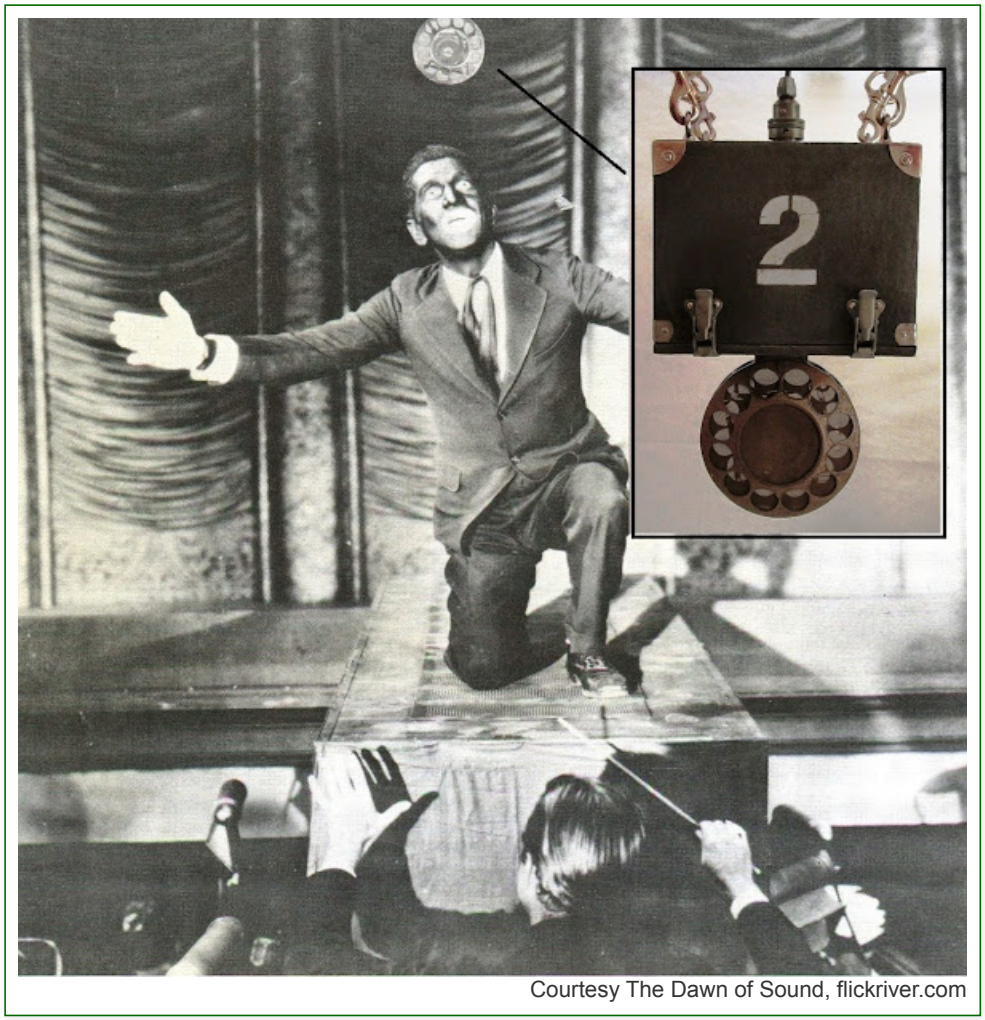
Western determined that all sound recording must be made in a location remote from the stage where the film was being shot.

Courtesy picking.com

The mixer man on the set depressed a button which started and brought into synchronization the film camera and the disc recorder; silenced ventilation systems; muted telephone bells; and activated flashing warning lights outside the stage doors. In about three seconds, sound speed was attained, and the mixer man would exclaim, "speed!"

Courtesy, MGM

The Western 1-B microphone was initially utilized, seen here above Al Jolson.

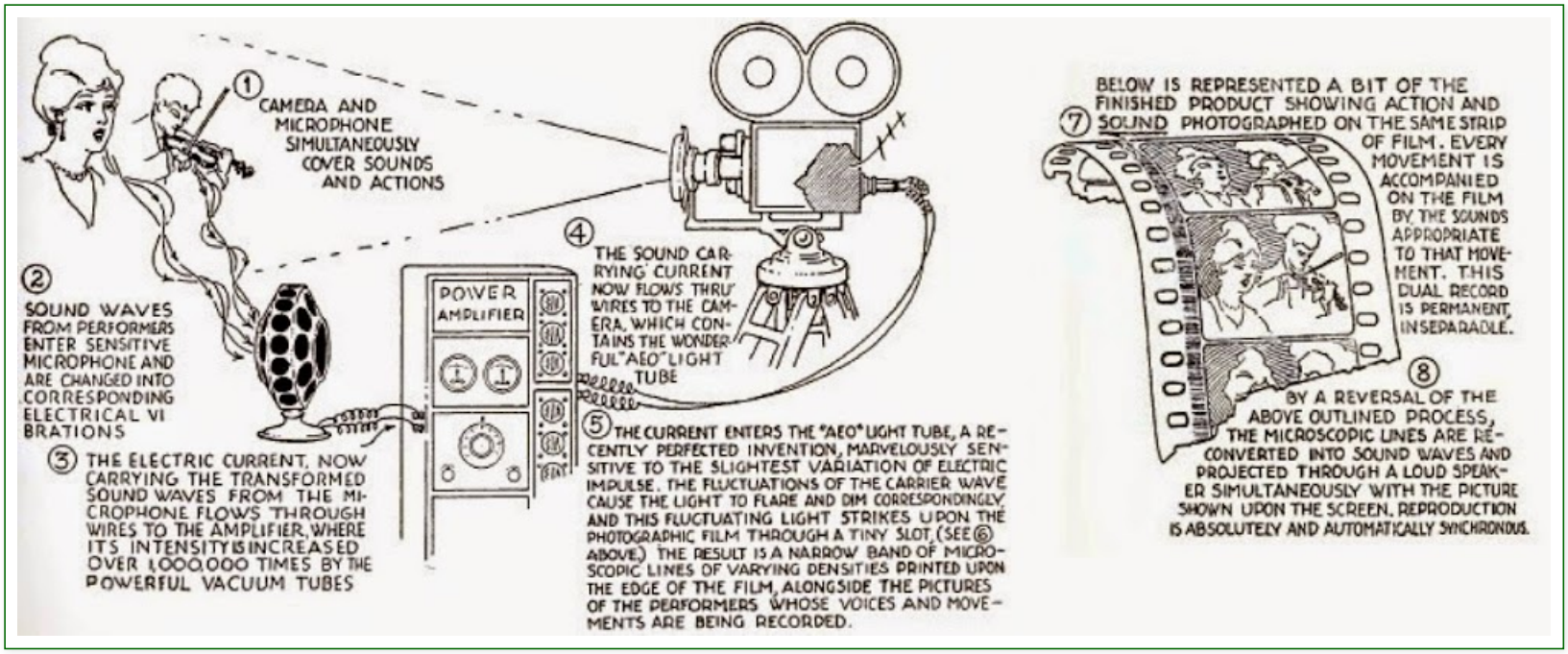


Courtesy The Dawn of Sound, flickriver.com

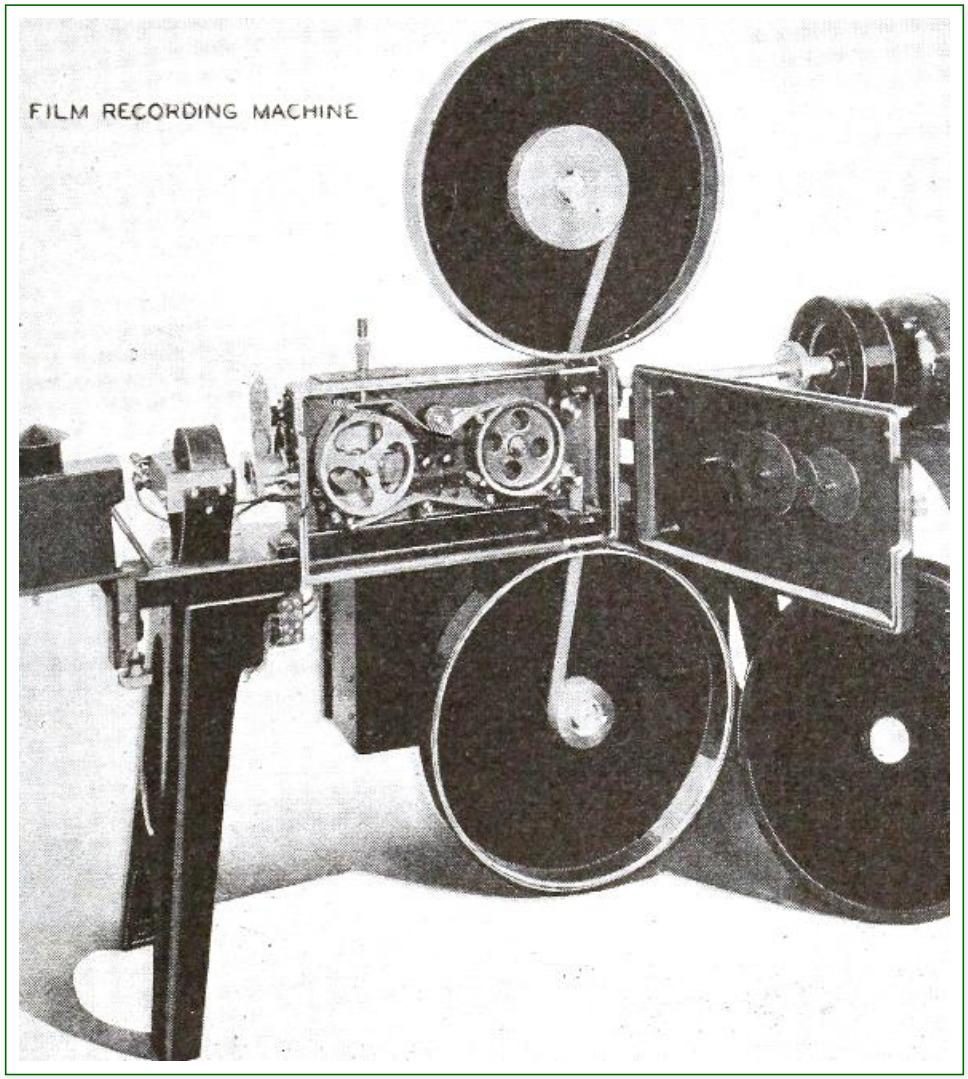
Another mic used in early film production was a Western 47-B one-tube amplifier paired with a 394 Transmitter to make the first condenser microphone, shown here in 1929 in the Marx Brothers' "The Cocoanuts," a Paramount Picture shot in Astoria under a Vitaphone license.

Courtesy Coutant.org

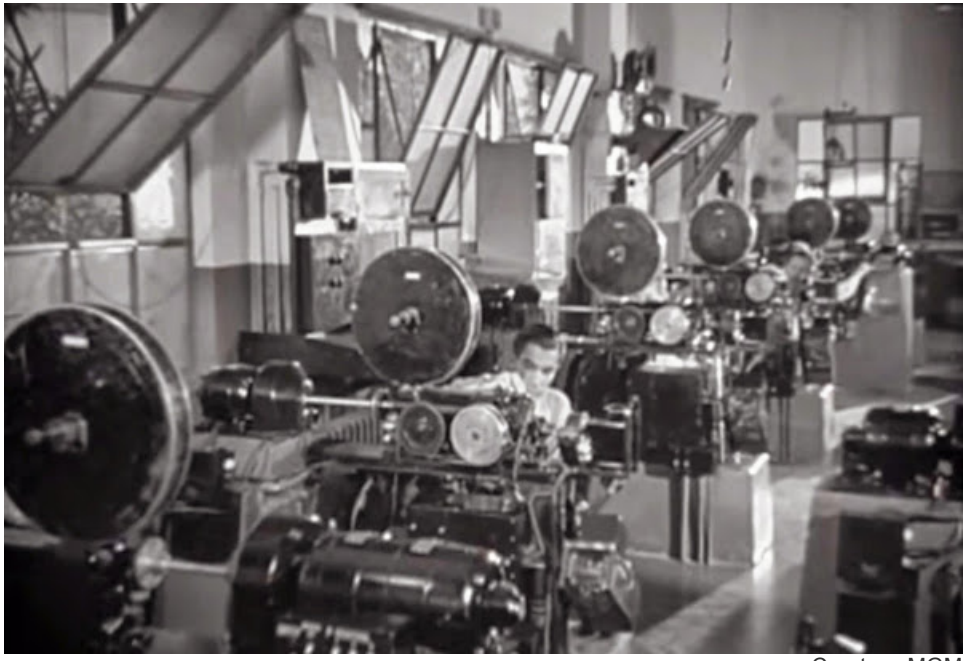
Movietone, the sound-on-film process promoted by William Fox, differed from Vitaphone in that cameras could record both sight and sound simultaneously and were not necessarily studio-bound. Fox made dramatic use of the camera's portability with his Movietone News.


1 CAMERA AND MICROPHONE SIMULTANEOUSLY COVER SOUNDS AND ACTIONS
2 SOUND WAVES FROM PERFORMERS ENTER SENSITIVE MICROPHONE AND ARE CHANGED INTO CORRESPONDING ELECTRICAL VIBRATIONS
3 THE ELECTRIC CURRENT, NOW CARRYING THE TRANSFORMED SOUND WAVES FROM THE MICROPHONE FLOWS THROUGH WIRES TO THE AMPLIFIER, WHERE ITS INTENSITY IS INCREASED OVER 1,000,000 TIMES BY THE POWERFUL VACUUM TUBES
POWER AMPLIFIER
4 THE SOUND CARRYING CURRENT NOW FLOWS THRU WIRES TO THE CAMERA, WHICH CONTAINS THE WONDERFUL "AEO" LIGHT TUBE
5 THE CURRENT ENTERS THE "AEO" LIGHT TUBE, A RECENTLY PERFECTED INVENTION, MARVELOUSLY SENSITIVE TO THE SLIGHTEST VARIATION OF ELECTRIC IMPULSE. THE FLUCTUATIONS OF THE CARRIER WAVE CAUSE THE LIGHT TO FLARE AND DIM CORRESPONDINGLY, AND THIS FLUCTUATING LIGHT STRIKES UPON THE PHOTOGRAPHIC FILM THROUGH A TINY SLOT, (SEE 6 ABOVE.) THE RESULT IS A NARROW BAND OF MICROSCOPIC LINES OF VARYING DENSITIES PRINTED UPON THE EDGE OF THE FILM, ALONGSIDE THE PICTURES OF THE PERFORMERS WHOSE VOICES AND MOVEMENTS ARE BEING RECORDED.
BELOW IS REPRESENTED A BIT OF THE FINISHED PRODUCT SHOWING ACTION AND 7 SOUND PHOTOGRAPHED ON THE SAME STRIP OF FILM. EVERY MOVEMENT IS ACCOMPANIED ON THE FILM BY THE SOUNDS APPROPRIATE TO THAT MOVEMENT. THIS DUAL RECORD IS PERMANENT, INSEPARABLE.
8 BY A REVERSAL OF THE ABOVE OUTLINED PROCESS, THE MICROSCOPIC LINES ARE RECONVERTED INTO SOUND WAVES AND PROJECTED THROUGH A LOUD SPEAKER SIMULTANEOUSLY WITH THE PICTURE SHOWN UPON THE SCREEN. REPRODUCTION IS ABSOLUTELY AND AUTOMATICALLY SYNCHRONOUS.

For studio use, Western devised a "sound camera" separate from the film camera, the object being the reduction of extraneous vibration. The film, once processed, contained the sound track.

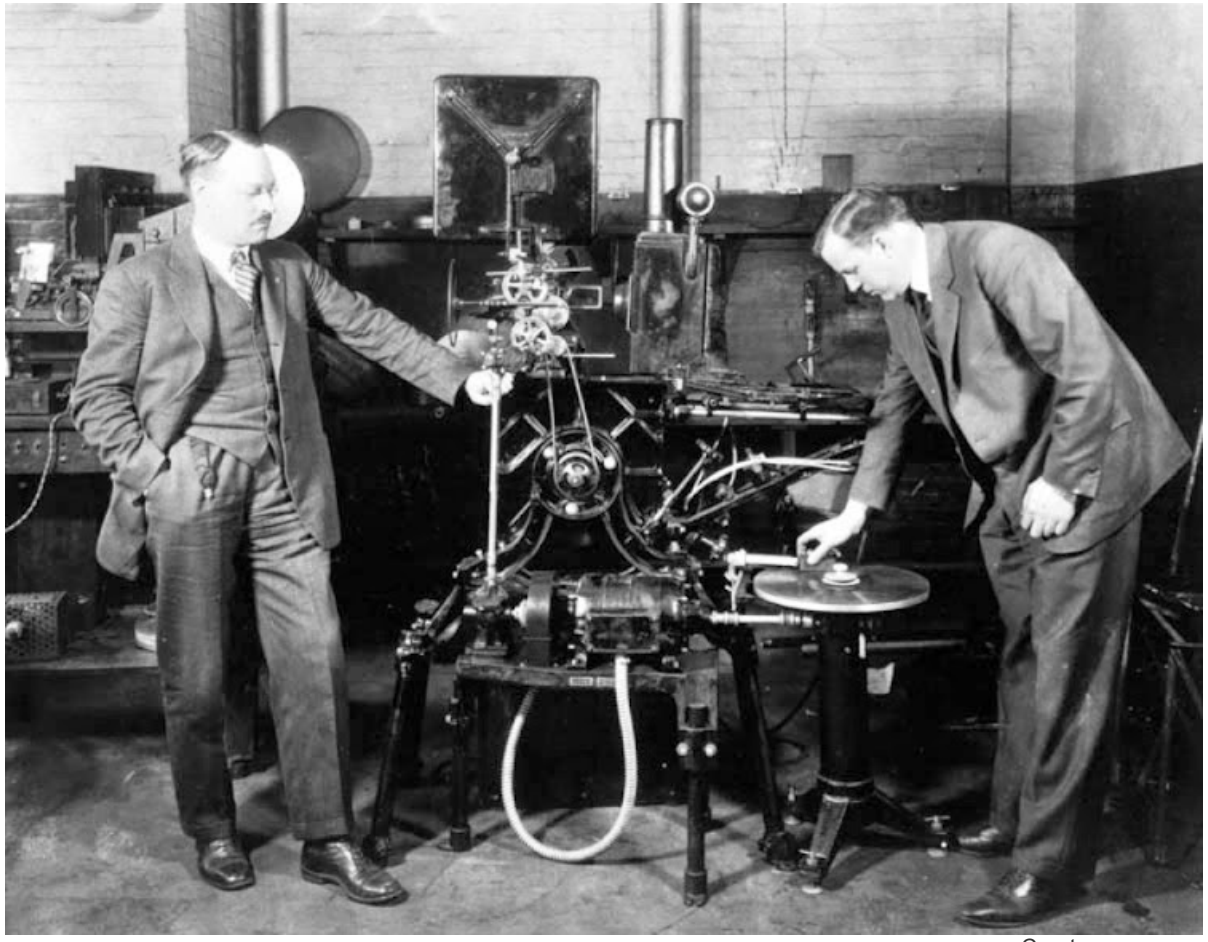


As with Vitaphone, banks of Movietone sound cameras were located remote from the shooting stage. Studios retained some disc machines for immediate playback needs.



Courtesy MGM

Western Electric engineers Henry Stoller and Harry Pfannenstiehl with a prototype of the first commercial motion picture projector equipped for synchronized sound. In January, 1927, Western formed a subsidiary named Electrical Research Products, Inc. (ERPI) to manufacture, lease, install and service these machines.

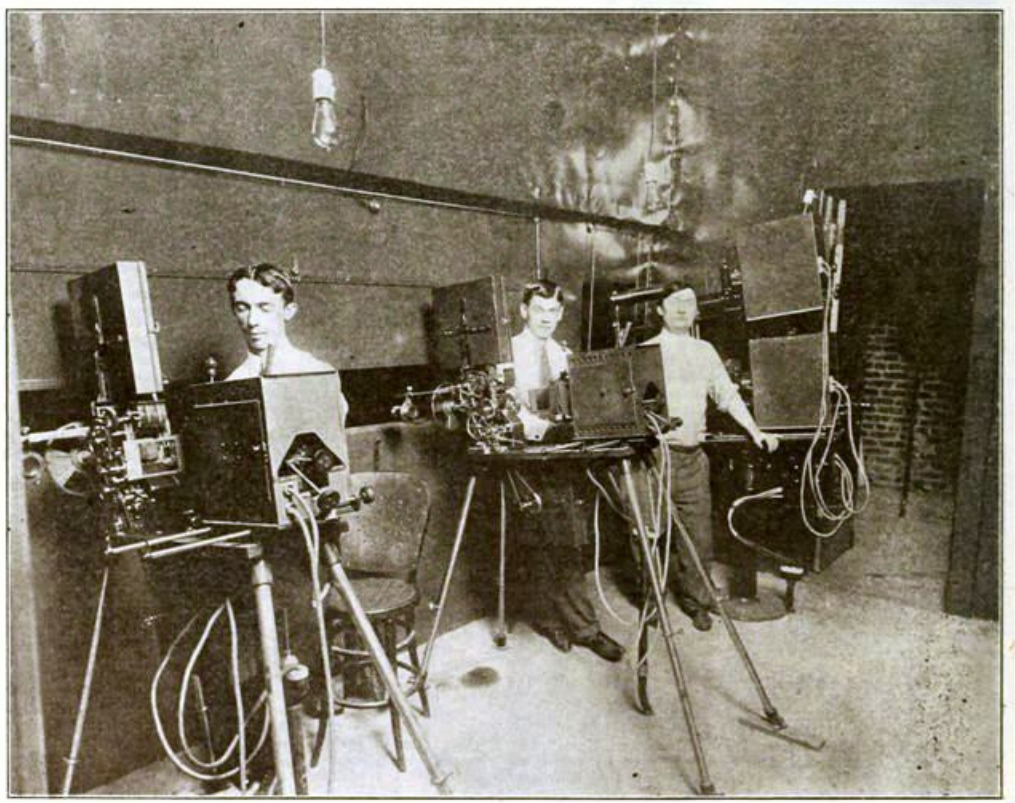


Courtesy aes,com

Western Electric equipped all of the studios and about half of the theatres. In order for Western to guarantee its installations, they called the shots with potential lessees. Both studios and theatres were altered at the owners' expense to accept the apparatus, and there could be no argument.

1 manufacturer
11 producers
1000 exhibitors
making Sound Pictures a success
WORKING shoulder to shoulder they have pioneered a new art to its present position as an outstanding box-office success.
Western Electric, the manufacturer who developed the only Sound Picture equipment in considerable use today, pledges a continuance of high electrical and mechanical standards and announces a rapid step-ping-up of output to meet the pressing demand.
The Producer, naturally jealous of the quality of his Sound Picture releases, and the Exhibitor, who knows the popularity of his house is closely linked with a Sound Picture installation of high quality, will continue to look to the experience, the reputation and the organization of Western Electric.
Western Electric
made the first successful Sound Picture recording and reproducing equipment.
Exhibitors
in a thousand theatres all over the Land, have brought Sound Pictures to the people.
Producers have worked out a new and difficult production technique
Electrical Research Products Inc.
250 West 57th Street, New York, N. Y.
Representing
Western Electric
System of Sound Pictures

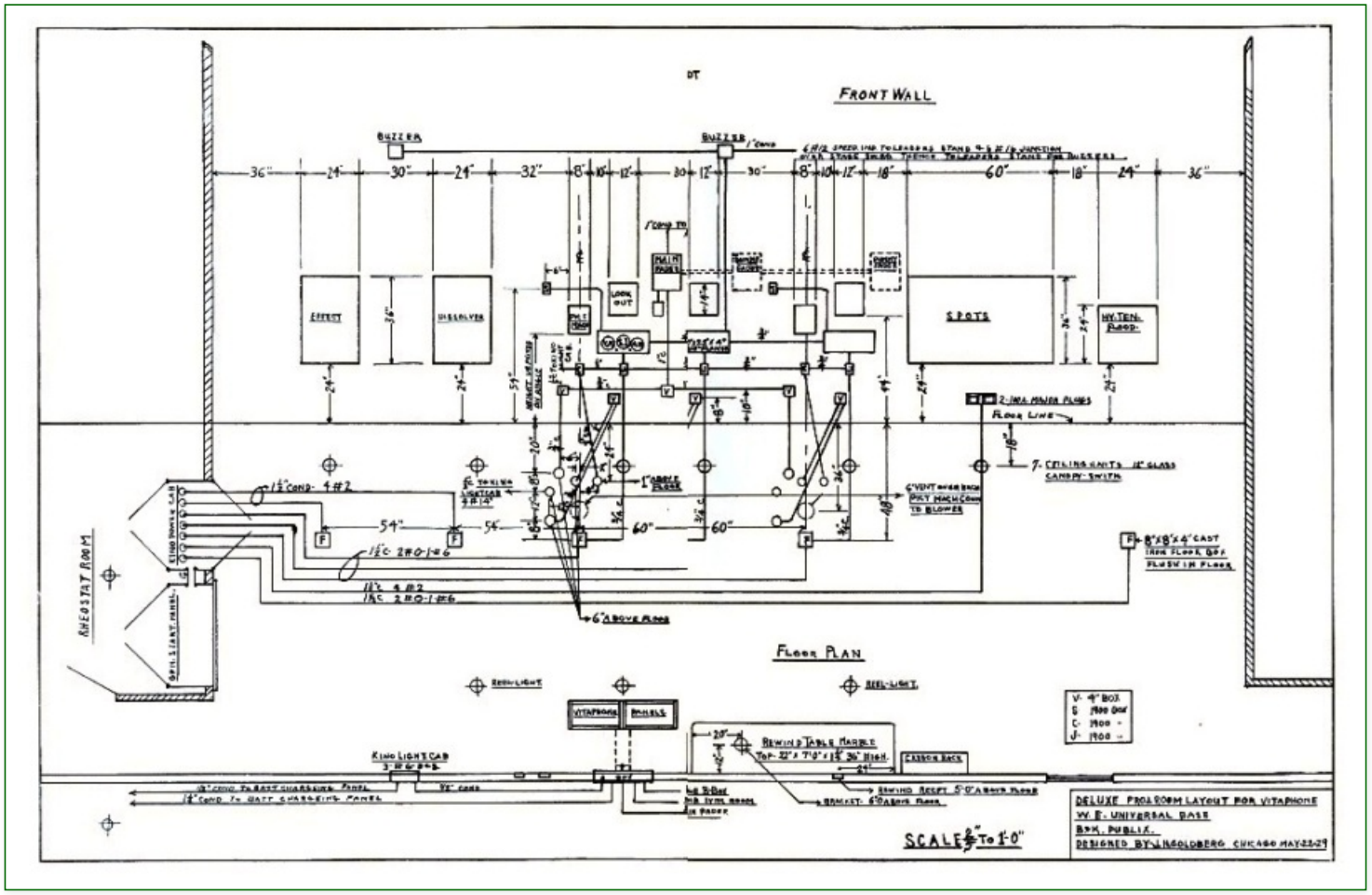
Before the advent of sound, projection booths were not particularly complicated, as shown in this 1911 shot of Atlanta's Vaudette Theatre. Two projectors (left and center) with a 2000-foot, twenty-two minute capacity, alternated playing the reels of a feature film. Fire-retardant booths were required by code to protect the audience in case of fire.



Vaudette Theater, Atlanta, Ga. View of Operating Room, 16 ft. long by 12 ft. wide and 14 ft. high; 24-inch Ventilating Exhaust Fan; 2 No. 6 Powers Machines; 1 Double Stereopticon. (See page 120.)

Courtesy John Tanner

Before talkies, booth wiring was a snap. This wiring plan was published in May, 1929 and shows the many and precisely located conduits dictated by Western Electric. For a PDF view, click here.



Until about 1950, film prints were released on nitrate stock, which were extremely flammable. The likelihood of fire increased with the construction of theatres with longer projection throw distances, which necessitated brighter and hotter carbon arc light sources. Sentry (below) employed a chemical which drenched the burning film within the machine.

The Man in the Booth Knows the Real Danger from FIRE
No film fires in any Fox Theatres
William Fox has agreed to install SENTRY SAFETY CONTROL [the positive fire-preventer] in each of the FOX CIRCUIT THEATRES; also in all his laboratories and studios.
Such an endorsement of SENTRY SAFETY CONTROL by such a man tells its own story.
Mr. Fox, one of the founders of, as well as one of the leaders in the motion picture industry, has long been noted for his penetrating foresight. When the Sentry Safety Control was brought to his attention, he quickly decided to utilize now what some day everyone will have. His decision was made as soon as he was convinced that the device provided 100% safety from film fires for his patrons and employes.
SENTRY SAFETY CONTROL

By 1920 codes required that the various portals between the booth and the auditorium be equipped with counter-balanced steel fire shutters, which would slam shut in unison if any of a number of strategically placed fusible links burned through.

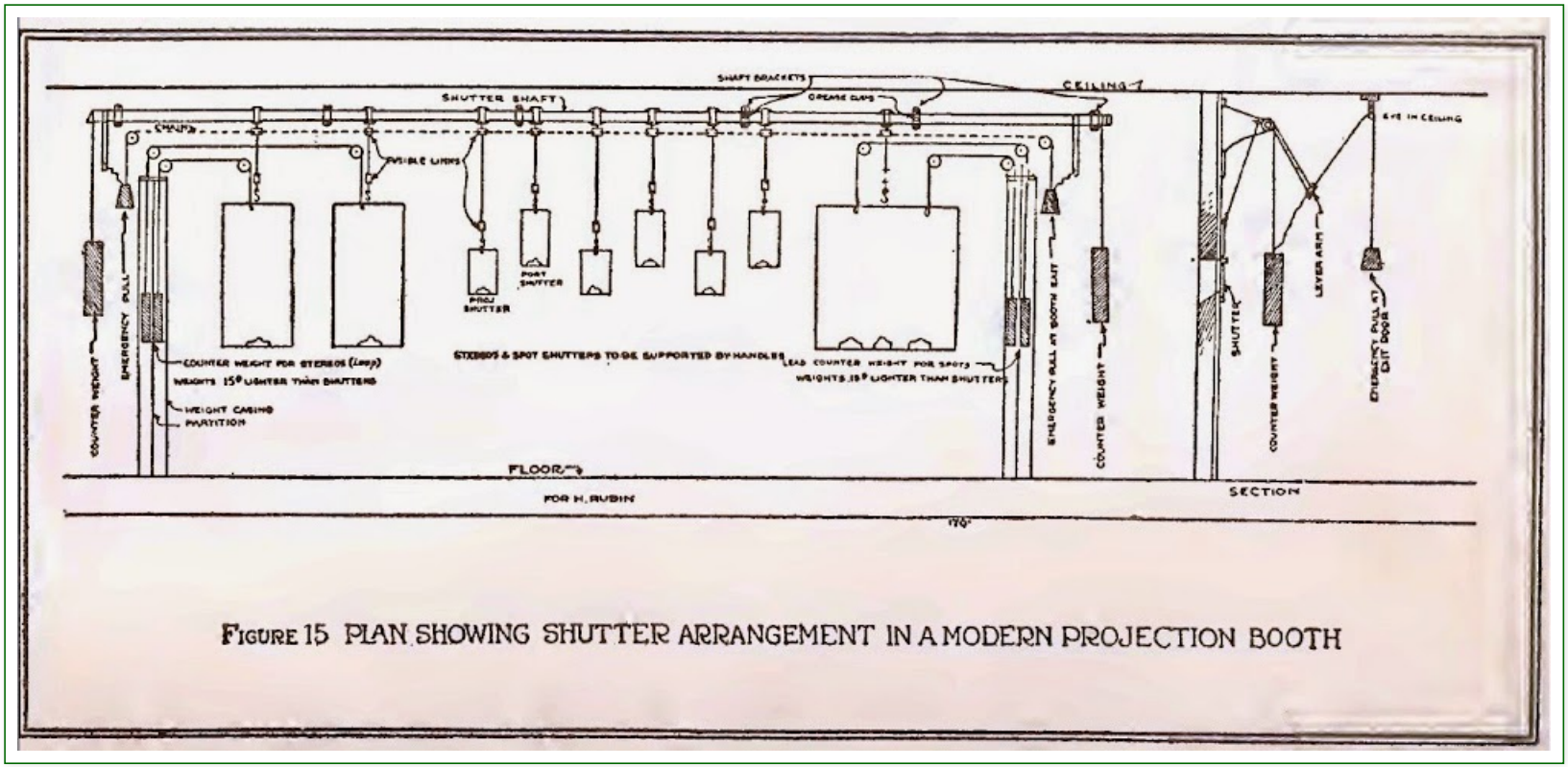
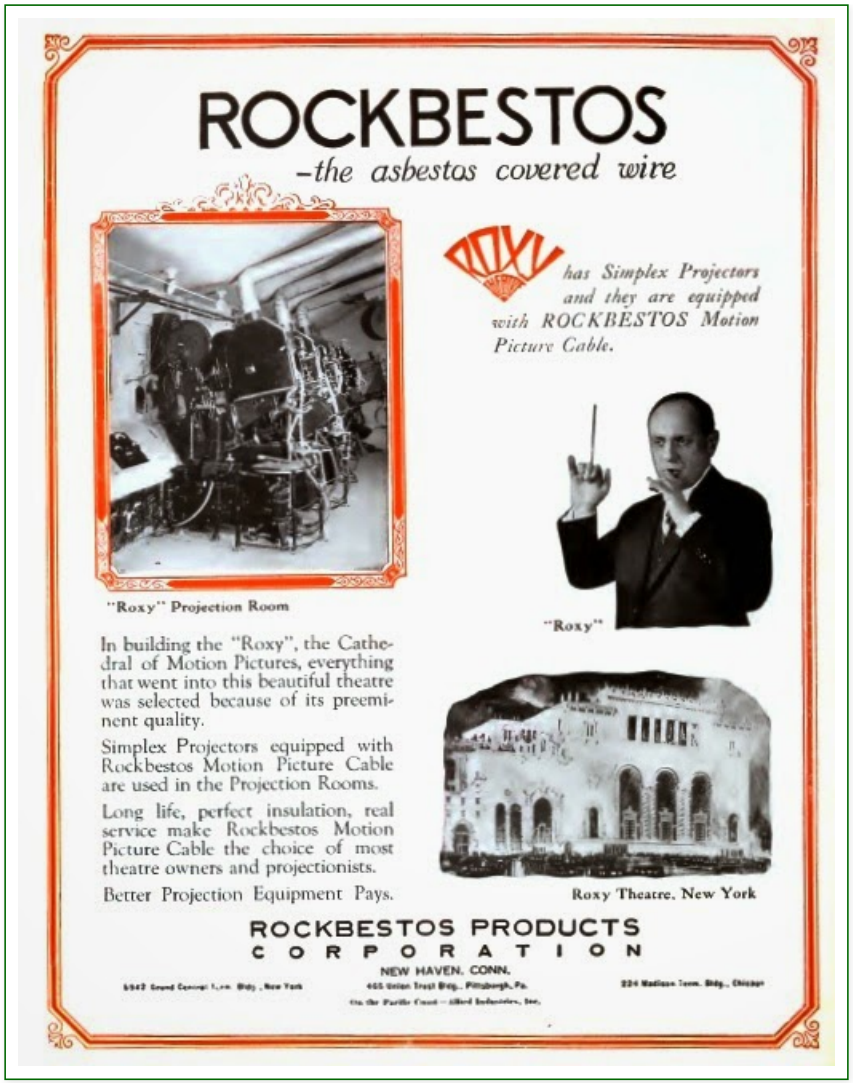
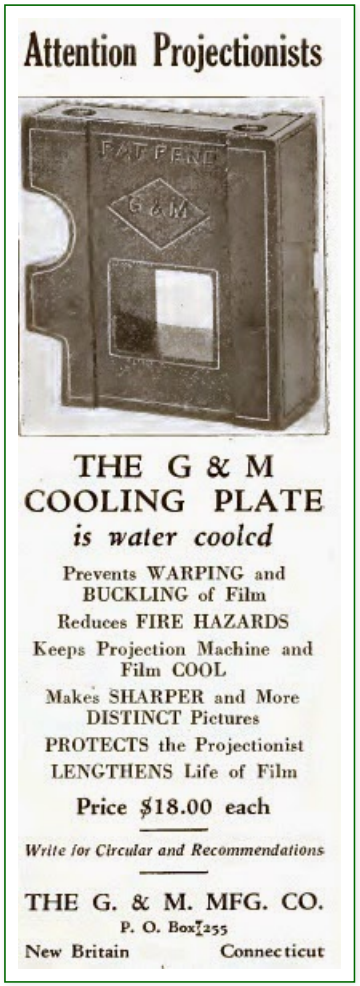


FIGURE 15 PLAN SHOWING SHUTTER ARRANGEMENT IN A MODERN PROJECTION BOOTH

Asbestos was a suitable fire-proof insulator for wiring.


ROCKBESTOS
-the asbestos covered wire
has Simplex Projectors and they are equipped with ROCKBESTOS Motion Picture Cable.
"Roxy" Projection Room
"Roxy"
In building the "Roxy", the Cathedral of Motion Pictures, everything that went into this beautiful theatre was selected because of its preeminent quality.
Simplex Projectors equipped with Rockbestos Motion Picture Cable are used in the Projection Rooms.
Long life, perfect insulation, real service make Rockbestos Motion Picture Cable the choice of most theatre owners and projectionists.
Better Projection Equipment Pays.
Roxy Theatre, New York
ROCKBESTOS PRODUCTS
CORPORATION
NEW HAVEN, CONN.

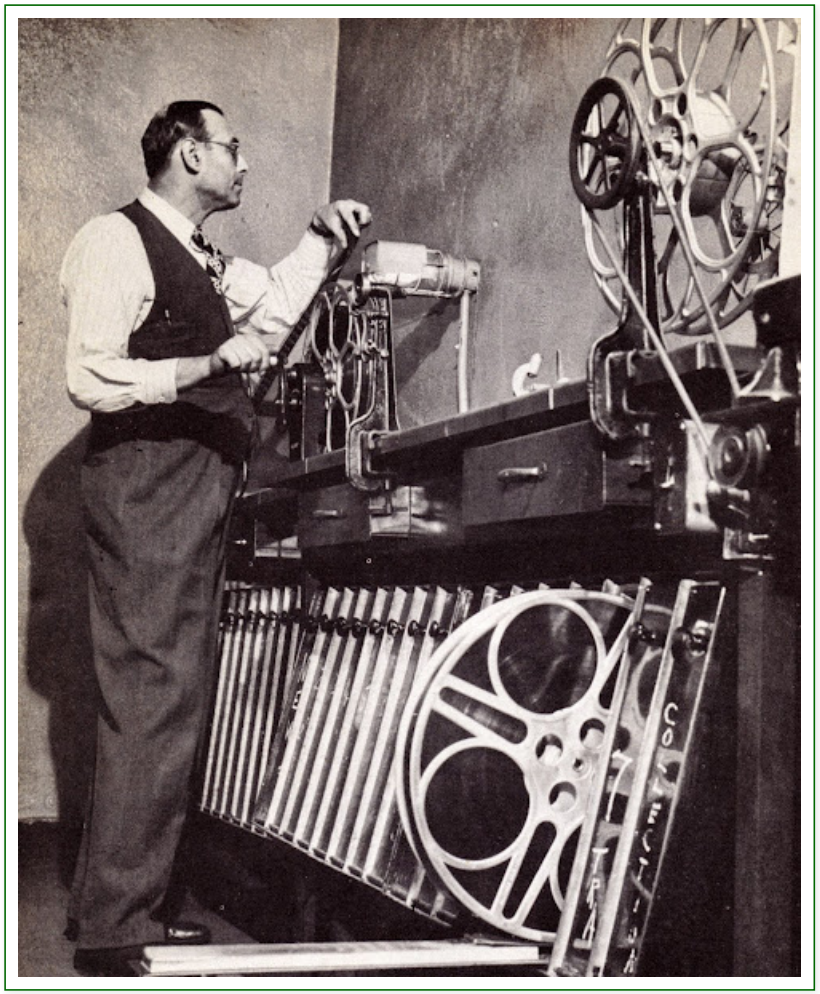
The projected film was set inches away from the carbon rods which burned white-hot. One device, originally installed at the Atlanta Fox, was a projector film trap which was cooled by re-circulated room-temperature water. Water cooling significantly lowered the temperature of the film gate, which resulted in fewer projectionists being burned while threading.



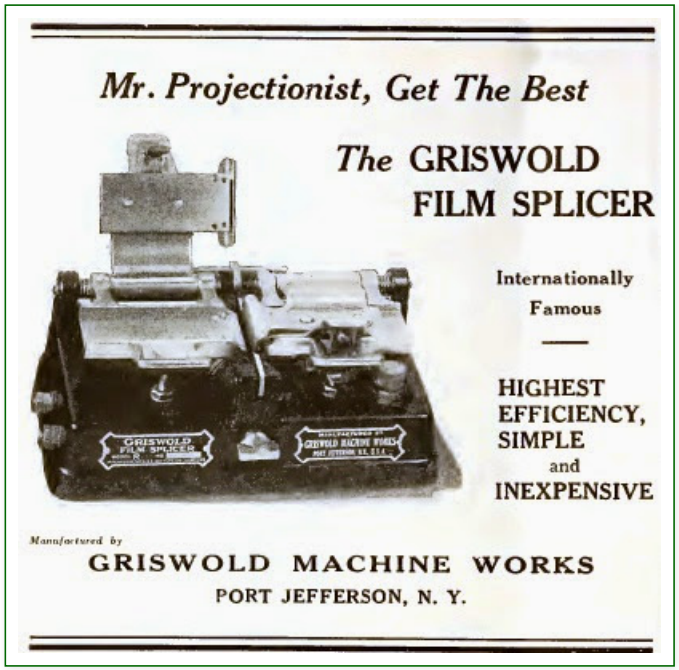
By 1910, film handling and booth procedures had become routine. Release prints were shipped in fire-proof canisters (left), and the standard projection reel was one-thousand feet in length (right), the same size of those utilized within the camera. the reels could run eleven minutes at sound speed. Operators could "double up" reels by splicing two reels onto 2000-foot reel which the projectors could accommodate.

Courtesy ebay.com

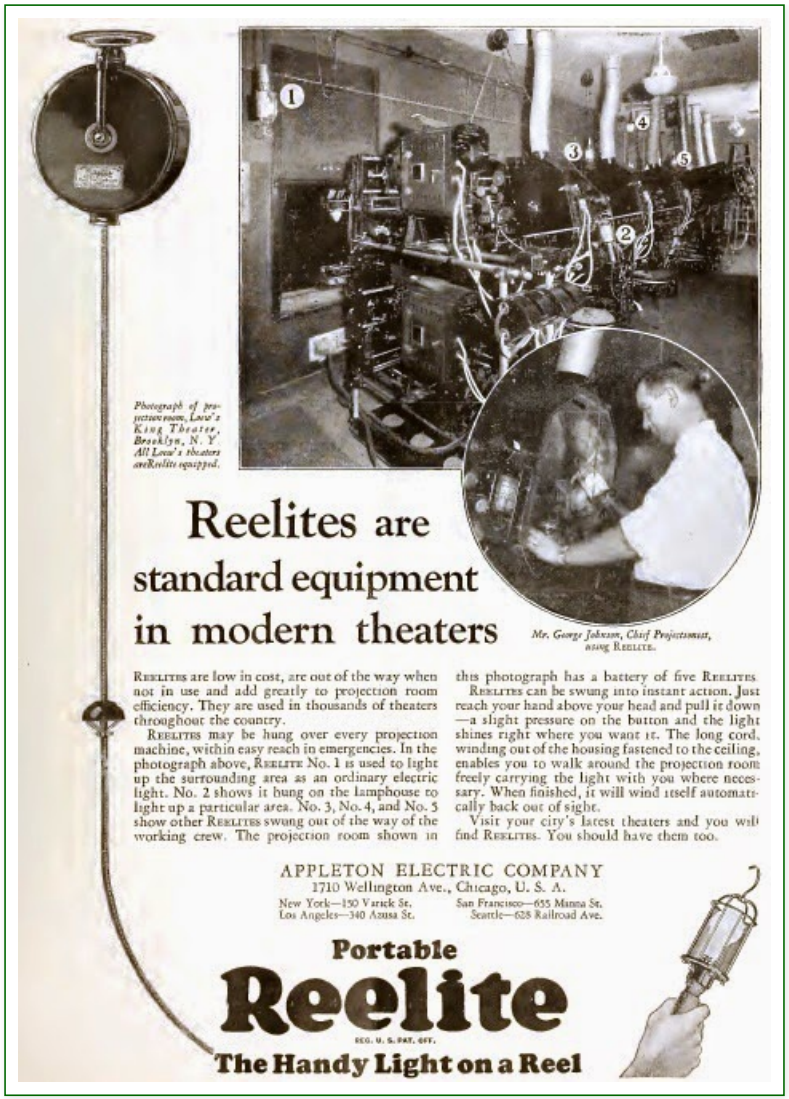
Prints were received by the theatres "tails up," that is backwards on the reel. The operator would wind the film onto house reels, check for improper splices and make repairs where required. 35MM projectors had no rewind mode, and prints were returned to the exchange tails up. After inspection, the reels would be placed into the fire-proof file (below) in playing order.



The Griswold splicer was used with a liquid film glue, as opposed to hot splices employed at the exchange. Splices had to be made properly, or the picture would jump "out of frame" when projected.



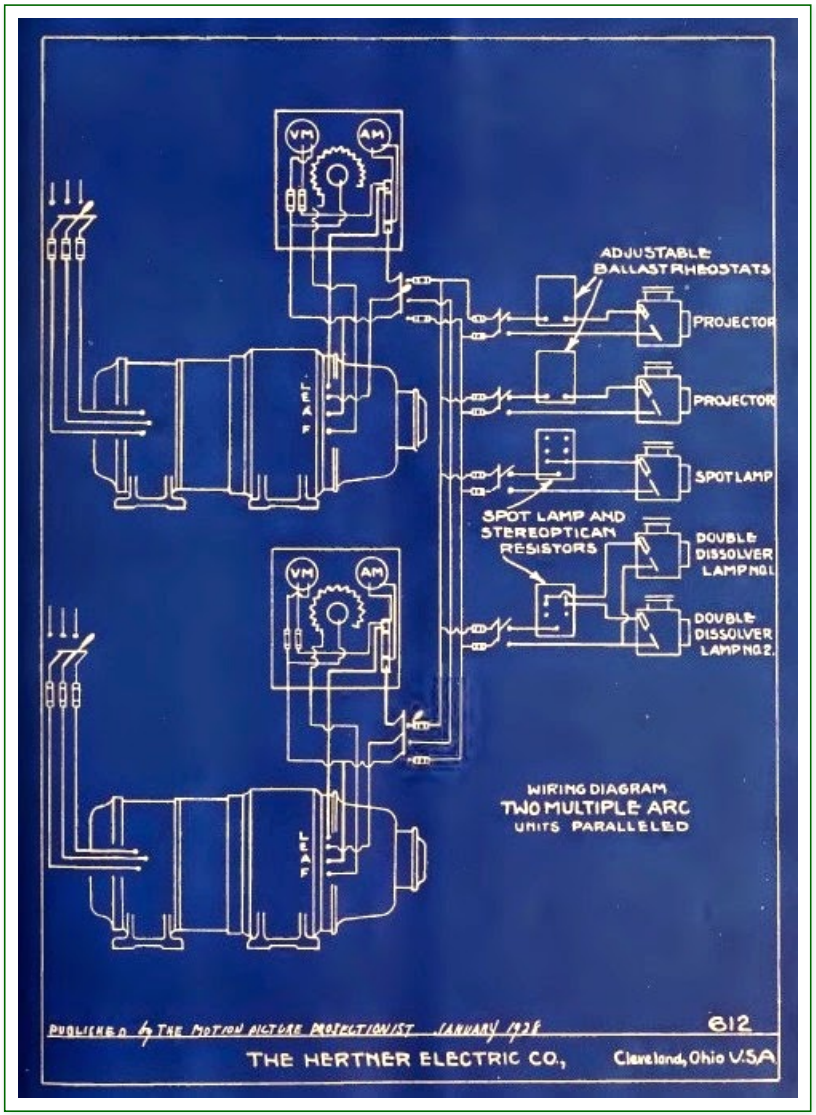
So that operators could see what they were doing in a darkened booth, work lights were installed on ceiling-mounted retractable reels. The Fox had two.


Photograph of projection room, Loew's King Theater, Brooklyn, N. Y. All Loew's theaters are Reelite equipped.
Reelites are standard equipment in modern theaters
Mr. George Johnson, Chief Projectionist, using Reelite.
Reelites are low in cost, are out of the way when not in use and add greatly to projection room efficiency. They are used in thousands of theaters throughout the country.
Reelites may be hung over every projection machine, within easy reach in emergencies. In the photograph above, Reelite No. 1 is used to light up the surrounding area as an ordinary electric light. No. 2 shows it hung on the lamphouse to light up a particular area. No. 3, No. 4, and No. 5 show other Reelites swung out of the way of the working crew. The projection room shown in this photograph has a battery of five Reelites.
Reelites can be swung into instant action. Just reach your hand above your head and pull it down—a slight pressure on the button and the light shines right where you want it. The long cord, winding out of the housing fastened to the ceiling, enables you to walk around the projection room freely carrying the light with you where necessary. When finished, it will wind itself automatically back out of sight.
Visit your city's latest theaters and you will find Reelites. You should have them too.
APPLETON ELECTRIC COMPANY
1710 Wellington Ave., Chicago, U. S. A.
New York—150 Varick St.
Los Angeles—340 Azusa St.
San Francisco—655 Mission St.
Seattle—628 Railroad Ave.
Portable
Reelite
REG. U. S. PAT. OFF.
The Handy Light on a Reel

At the Fox, power for the eight booth carbon arc lights was fed from motor-generators located in the Gallery elevator machine room. There were two Westinghouse MG sets with a 500 amp, 100 volt DC output, one a standby unit.

Better Projection
Increases Patronage
Westinghouse motion picture generators deliver a constant flow of power—assuring a clear, steady light on the screen. The projectionist may change from one machine to another without that objectionable flicker. There is no annoying variation in the intensity of light.
Westinghouse Electric & Manufacturing Company
East Pittsburgh Pennsylvania
Sales Offices in All Principal Cities of the United States and Foreign Countries
Westinghouse
MOTOR GENERATORS

Below a typical wiring diagram for parallel generators.



Hoffman Perfection rheostats, located in a room adjacent to the Fox booth, altered the output of the generator to match each lamp connected.

The Strongest Endorsement
for Perfection Rheostats

is the representative theatres which have installed them

Roxy Theatre	New York City
Paramount Theatre	New York City
Rialto Theatre	New York City
Rivoli Theatre	New York City
Loew's State Theatre	New York City
Astor Theatre	New York City
Proctor's 86th Street	New York City
Cohan Theatre	New York City
Publix Theatre	Buffalo, N. Y.
New Capitol	Binghamton, N. Y.
Keith's Theatre	Philadelphia
Carman Theatre	Philadelphia
Proctor's Theatre	New Rochelle, N. Y.
Proctor's Theatre	White Plains, N. Y.
Oriental Theatre	Detroit, Mich.
Fox's Theatre	Washington, D. C.

Keith's Circuit
Big Parade—Road Shows
Eastman Kodak Company
M. & S. Circuit

Loew's Circuit
Beau Geste—Road Shows
Vitaphone Companies
U. S. Navy and others

Simplex Division, International Projector Corp.
What Price Glory—Road Shows
"King of Kings"—Road Shows

Sold by All Branches National T. S. Co., Sam Kaplan, N. Y. C.

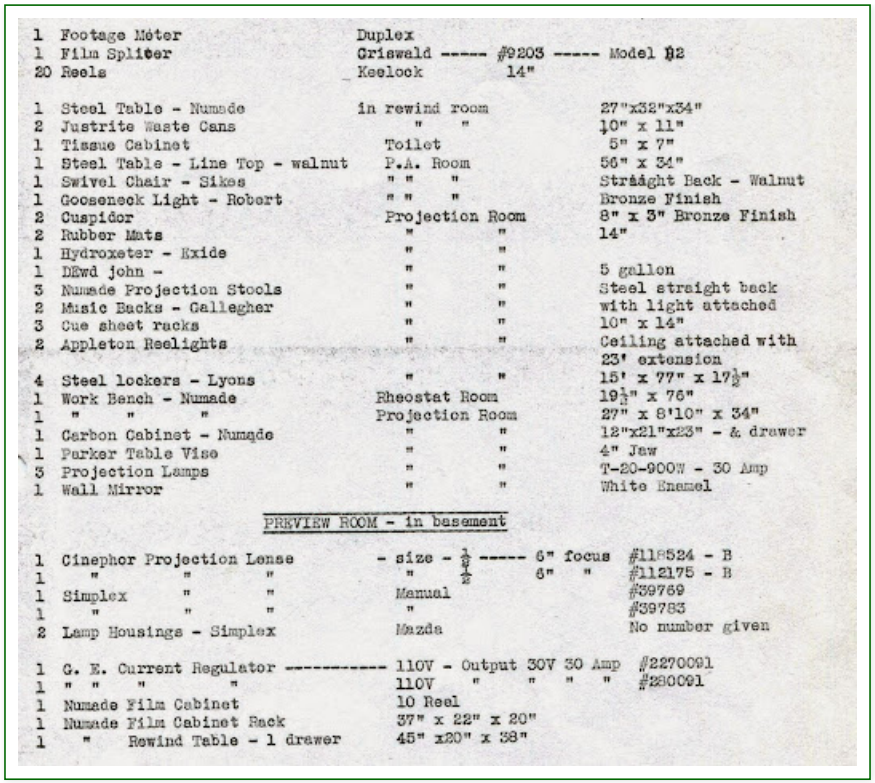
HOFFMANN & SOONS
Mfg. Division
522 FIRST AVENUE NEW YORK CITY
Contracting Electrical Engineers—Moving Picture Theatre Electrical Specialists

An inventory of the booth and the basement preview room booth was taken in 1935.

INVENTORY
FOX THEATRE

PROJECTION ROOM

1	Super Simplex Film Projector ---	serial number 38466	
1	" " " "	" " 38464	
1	" " " "	" " 38468	
1	Hall & Connally Lamp House - Ser.	#3204 - Model FR-10 - Motor #182183-J-2	- D C
1	" " " " " "	#3205 - Model FR-10 - " # 182388-J-2	- B C
1	" " " " " "	#3206 - Model FR-10 - " #182381-J-2	- D C
1	Brenkert Master Effect Projector	#3114 - Model F - 7 - No Number	D C
1	Brenkert Spot Projector	None " C - 15 " "	D C
1	" " "	" " C - 15 " "	D C
1	Hall & Connelly High Intensity	#2717 " FR- 6 " #176902	D C
1	Westinghouse Motor Generator	#4957300 -- 500 Amps. -- 100V	D C
1	" " " Motor	#4957296 175 " 220V	D C
1	Perfection Rheostat	#1578 --- Amps - 30M 70 Max. -- voltage	100 - 60
1	" "	#1579 " 30M 70 Max. "	100 - 60
1	" "	#1575 " 60M - 140 Max. "	100 - 60
1	" "	#1576 " 60M - 140 Max. "	100 - 70
1	" "	#1577 " 60M - 140 Max. "	100 - 70
1	" "	#1574 " 40M - 60 Max. "	100 - 70
1	" "	#1574 " 60M - 225 Max. "	100 - 75
1	" "	#1571 " 60M - 225 Max. "	100 - 75
1	" "	#1572 " 60M - 225 Max. "	100 - 75
1	Western Electric Projector Base Model	1-A Motor #HC-681 -- 110V --n 60Cycles	
1	" " " " "	1-A " #HC-735 110V 60 "	
1	" " " " "	1-A " #HC-687 110V 60 "	
1	Westinghouse Motor Generator	#4937299 -- 500 Amp. 100 V	D C
1	" " " Motor	#4937295 175 " 220 V	A C
3	Cinepher Projection Lenses --------	5½" forms	
3	" " "	5" "	
2	" " "	3½" "	
2	Ross " "	6½" "	
2	Brenkert Unit Projector Lenses	10 "	
2	" " " "	49 "	
2	" " " "	4 x 30	
2	" " " "	2	
1	Simplex Hand Rewind		
1	Numade Film Cabinet ----------	16 - 2000' reel capacity.	
1	" Rewind Table	5' x 26½"	
50	Brenkert Color Frames	15" x 14"	
16	Small Brenkert Effects	8" x 8"	
12	Hall & Connolly H.I. Color Frames	8" x 8"	
18	National H.I. Carbons ----------	13.6 x 20"	
47	" "	7/16 x 9"	

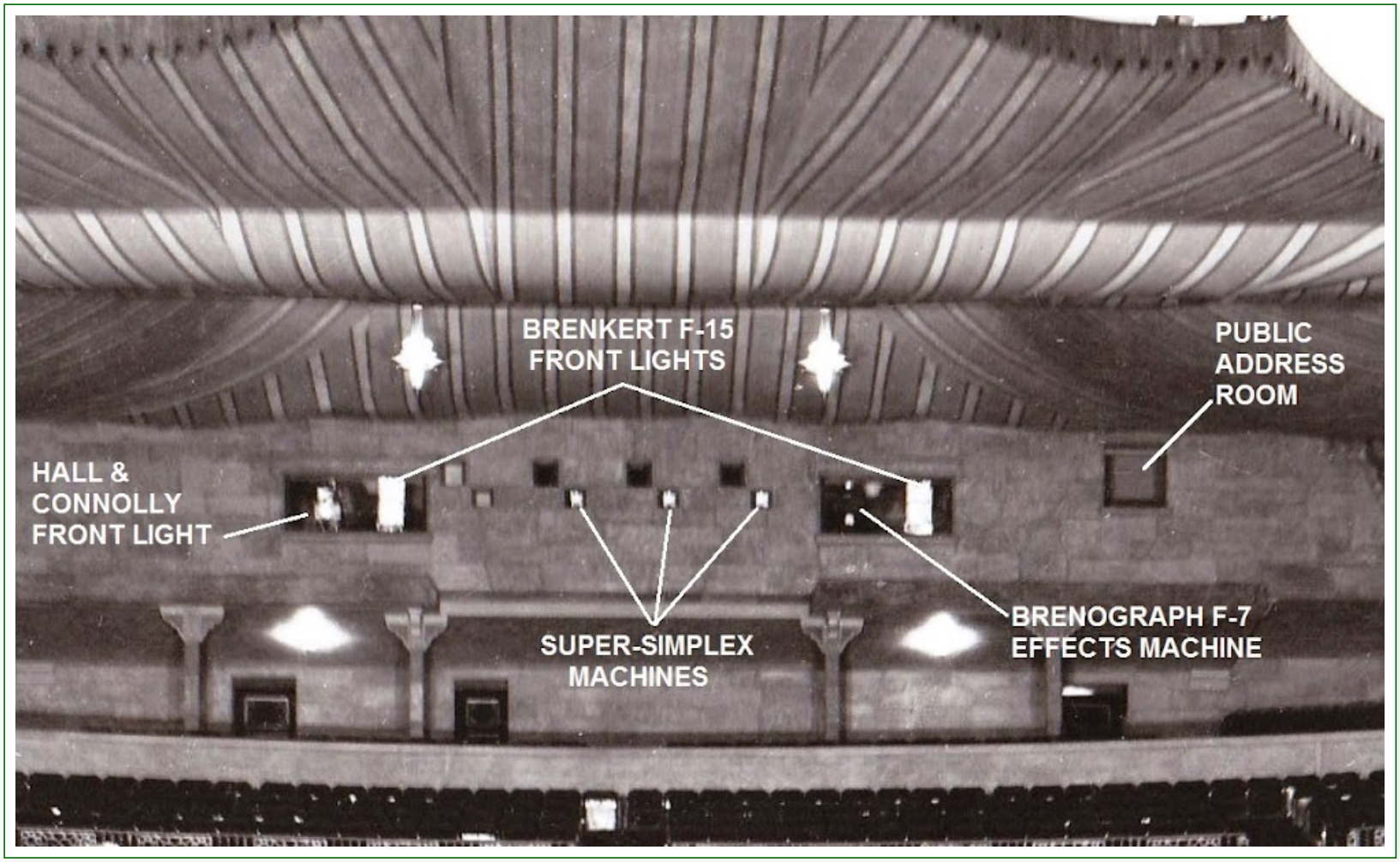


1	Footage Meter	Duplex	
1	Film Splicer	Griswald ----- #9203 ----- Model B2	
20	Reels	Keelock 14"	
1	Steel Table - Numade	in rewind room	27"x32"x34"
2	Justrite Waste Cans	" "	10" x 11"
1	Tissue Cabinet	Toilet	5" x 7"
1	Steel Table - Line Top - walnut	P.A. Room	56" x 34"
1	Swivel Chair - Sikes	" "	Straight Back - Walnut
1	Gooseneck Light - Robert	" "	Bronze Finish
2	Cuspidor	Projection Room	8" x 3" Bronze Finish
2	Rubber Mats	" "	14"
1	Hydroxeter - Exide	" "	
1	DEwd john -	" "	5 gallon
3	Numade Projection Stools	" "	Steel straight back
2	Music Backs - Gallegher	" "	with light attached
3	Cue sheet racks	" "	10" x 14"
2	Appleton Reelights	" "	Ceiling attached with 23' extension
4	Steel lockers - Lyons	" "	15' x 77" x 17½"
1	Work Bench - Numade	Rheostat Room	19½" x 76"
1	" " "	Projection Room	27" x 8'10" x 34"
1	Carbon Cabinet - Numade	" "	12"x21"x23" - & drawer
1	Parker Table Vise	" "	4" Jaw
3	Projection Lamps	" "	T-20-900W - 30 Amp
1	Wall Mirror	" "	White Enamel

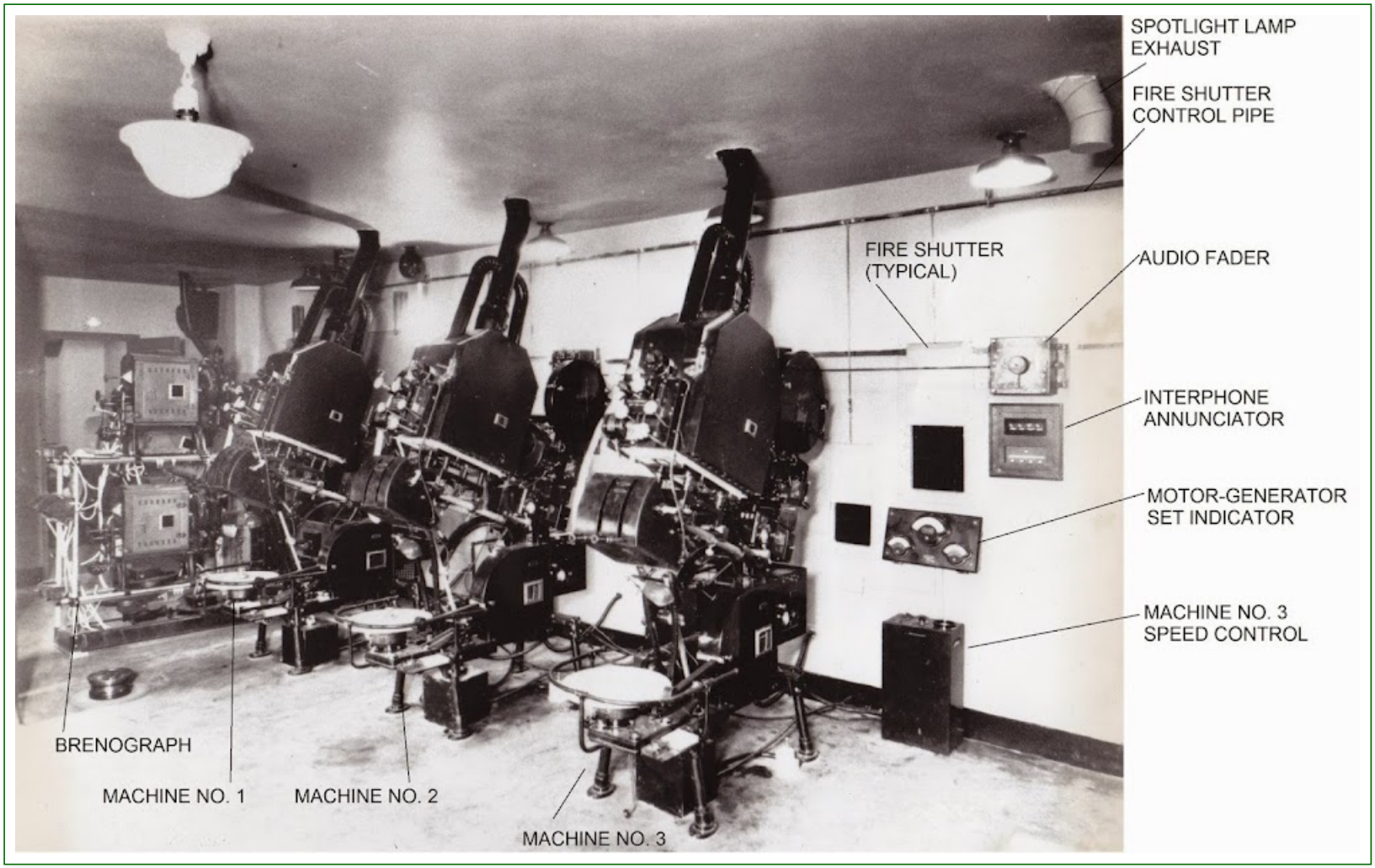
PREVIEW ROOM - in basement

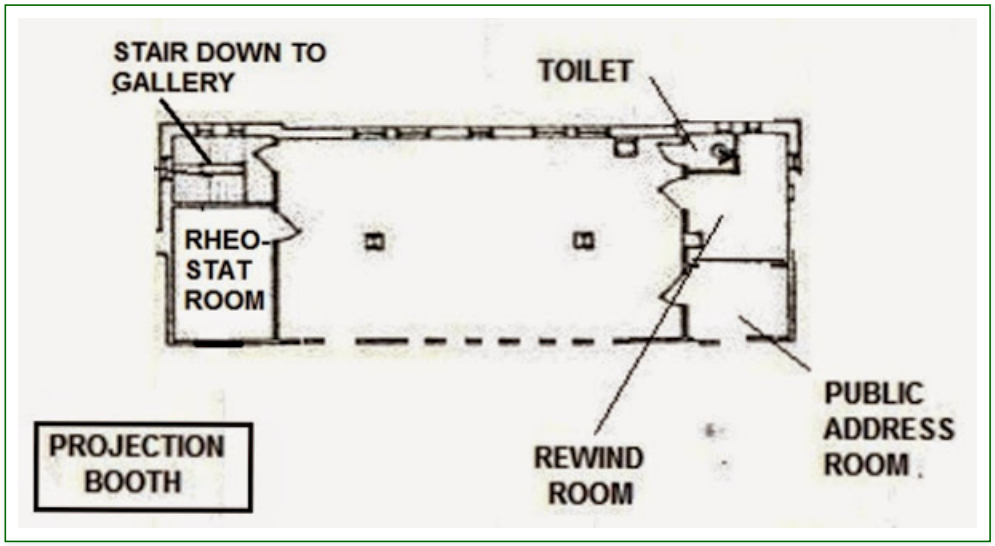
1	Cinephor Projection Lense	- size - ½ ----- 6" focus	#118524 - B
1	" " "	" ½ 6" "	#112175 - B
1	Simplex " "	Manual	#39769
1	" " "	"	#39783
2	Lamp Housings - Simplex	Mazda	No number given
1	G. E. Current Regulator ----------	110V - Output 30V 30 Amp	#2270091
1	" " " "	110V " " " "	#280091
1	Numade Film Cabinet	10 Reel	
1	Numade Film Cabinet Rack	37" x 22" x 20"	
1	" Rewind Table - 1 drawer	45" x20" x 38"	

The Atlanta Fox projection booth as seen from the stage, showing the eight devices, was 178 feet from the picture sheet.

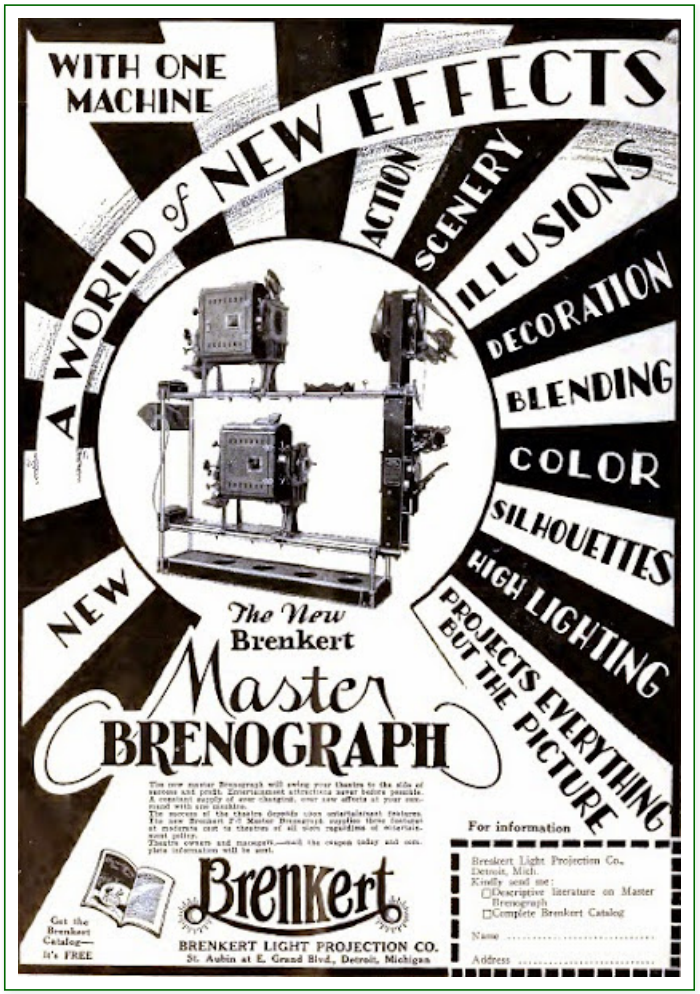


The Fox booth, in the photo below not yet completely equipped, contained the Brenograph (far left) and the three Super Simplex machines. The third film machine were installed to protect from failure. Although the Fox did not mix sound and silent (or Vitaphone) prints, houses ran each format on designated machines, so that the differing image sizes could be set to match on the screen. Because of the space taken by the sound track, the image size of sound-on-film prints was smaller. Behind Machine No. 1 on the floor is a spittoon.

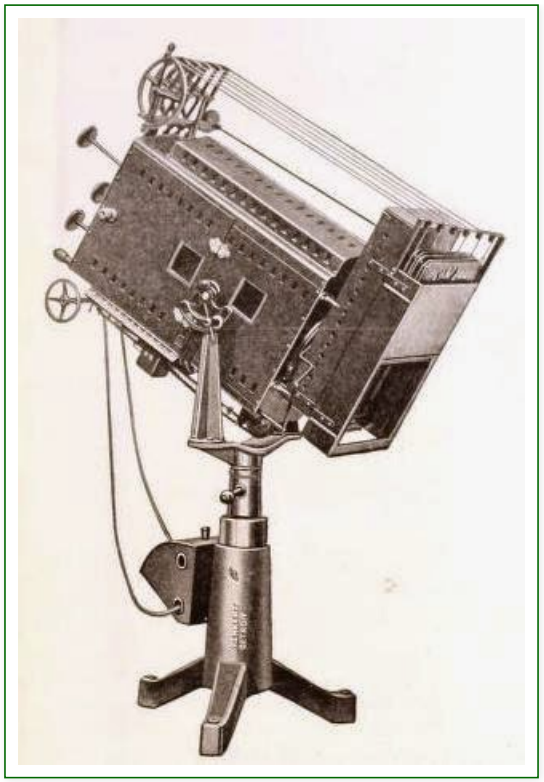

SPOTLIGHT LAMP EXHAUST
FIRE SHUTTER CONTROL PIPE
FIRE SHUTTER (TYPICAL)
AUDIO FADER
INTERPHONE ANNUNCIATOR
MOTOR-GENERATOR SET INDICATOR
MACHINE NO. 3 SPEED CONTROL
BRENOGRAPH
MACHINE NO. 1
MACHINE NO. 2
MACHINE NO. 3

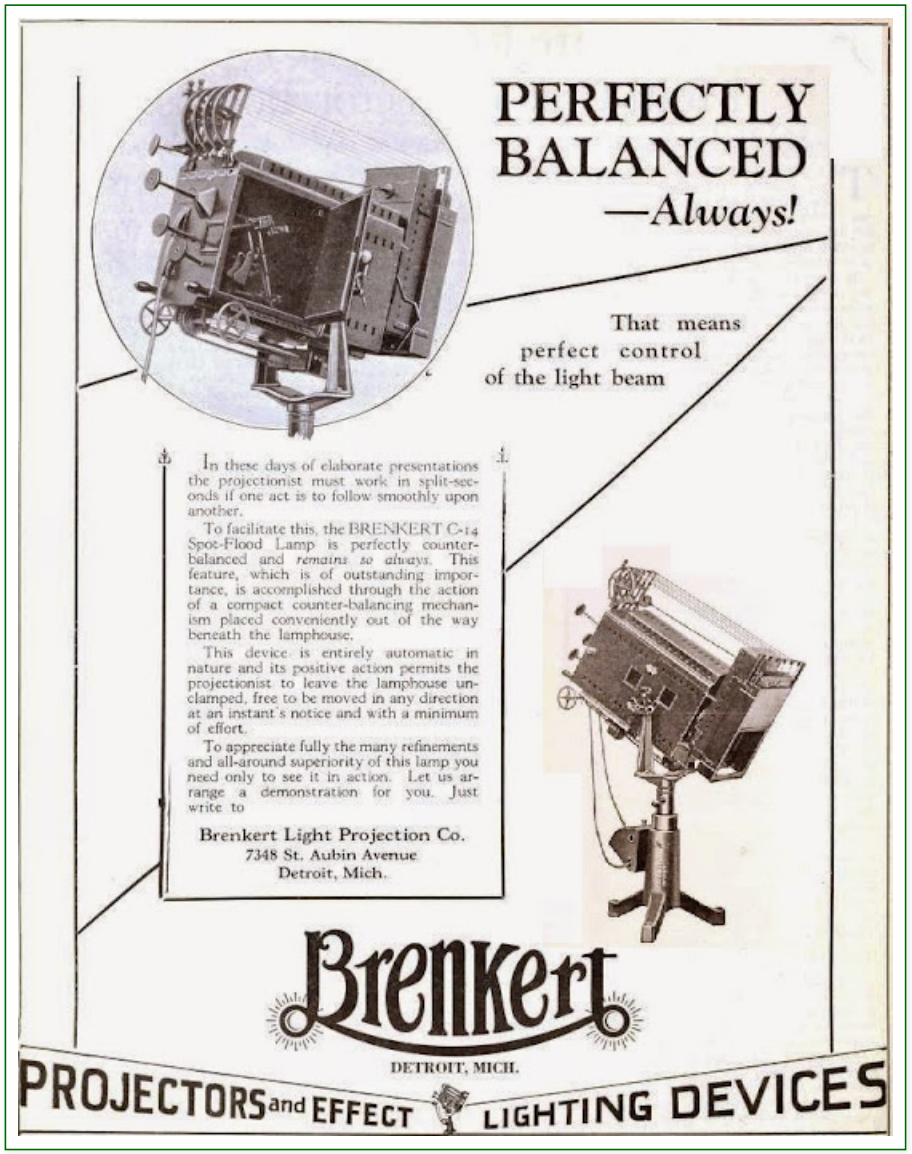


The Brenograph F-7 contained two slide projectors which allowed for glass plates to dissolve from one to the next, as for singalongs. The machine could also provide still or moving scenic effects, the latter with the attachment of a rotating disc.

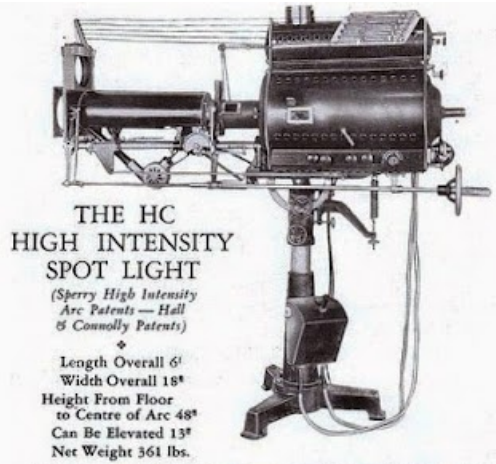


The three Front Lights at the Fox included two Brenkert C-15 Spot Projectors.




PERFECTLY
BALANCED
—Always!
That means
perfect control
of the light beam
In these days of elaborate presentations the projectionist must work in split-seconds if one act is to follow smoothly upon another.
To facilitate this, the BRENKERT C-14 Spot-Flood Lamp is perfectly counter-balanced and remains so always. This feature, which is of outstanding importance, is accomplished through the action of a compact counter-balancing mechanism placed conveniently out of the way beneath the lamphouse.
This device is entirely automatic in nature and its positive action permits the projectionist to leave the lamphouse unclamped, free to be moved in any direction at an instant's notice and with a minimum of effort.
To appreciate fully the many refinements and all-around superiority of this lamp you need only to see it in action. Let us arrange a demonstration for you. Just write to
Brenkert Light Projection Co.
7348 St. Aubin Avenue
Detroit, Mich.
Brenkert
DETROIT, MICH.
PROJECTORS and EFFECT LIGHTING DEVICES

The third Front Light was a Hall and Connolly "HC" High Intensity spotlight which, with its intense beam, was used to pick up the orchestra leader or the organist.



THE HC HIGH INTENSITY SPOT LIGHT

(Sperry High Intensity Arc Patents — Hall & Connolly Patents)

Length Overall 6'
Width Overall 18"
Height From Floor to Centre of Arc 48"
Can Be Elevated 13"
Net Weight 361 lbs.

On account of the HIGH INTENSITY being a flaming arc it was necessary in adapting this powerful light to devise an entirely new optical system. In the HIGH INTENSITY SPOT the light from the arc is collected by a set of suitable condensers, concentrated and imaged on a variable aperture shutter located in front of the condensers, and the shutter opening imaged on the stage by means of a movable objective lens located in front of and at some distance away from the variable aperture shutter.

By a turn of the operating hand wheel the collector lenses, or condensers, move toward the arc as the variable shutter opening gradually enlarges; controlling the size of the concentrated spot on the aperture so that it at all times more than covers the opening, thus screening out the objectionable light at the edges of the beam. By the same turn of the operating wheel the objective lens moves into the proper focus corresponding to the opening in the variable shutter.

Besides the round spot shutter, rectangular ones are provided for giving square, rectangular, or strip floods or spots. All movements changing size or shape of light beam or changing the pointing and positioning of the light itself are indicated by means of pointers on graduated scales.

The Hall & Connolly High Intensity Spot is standard equipment in theatres belonging to Loew, Keith and Warner. The Capitol Theatre in New York uses six on all their presentations.

This Spot Light is automatically and instantaneously controlled, relieving the operator of hand feeding and adjusting the arc, and enabling him to manipulate the light beam more deftly. By a slight turn of a handwheel the spot can be changed gradually from a square, rectangle, strip or flood to a perfectly round disc of light. The possibilities for smooth and pleasing effects, subdued light or dazzling brilliancy are practically unlimited.

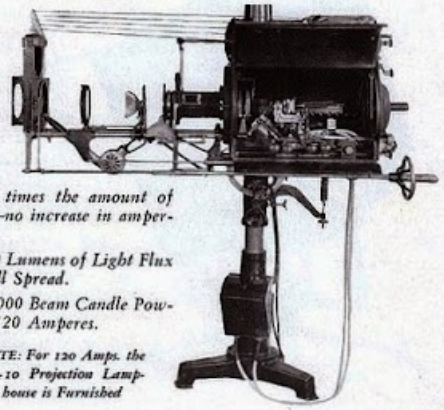
OPERATING PRINCIPLE

A concentrated high intensity light source, a pair of large condensers, an adjustable aperture, and an objective lens of large diameter are all mounted on the same axis, (in the same straight line) and in the order named. The set of condensers is mounted so as to slide backward or forward with relation to the lamp. The adjustable aperture consists of a specially constructed heat resisting iris shutter for round spots and floods, and a special four-bladed device for other shapes. The objective lens is of 6" diameter and is slideably mounted.

The movement of the aperture and that of the condenser lenses are geared together and in turn geared to the main operating handwheel. A turning of the handwheel to the right gradually opens up the aperture and at the same time moves the condensers nearer to the arc, and this constitutes the act of spreading the beam (making the spot on the stage larger). As the condensers move in unison with the geared aperture the distance from the arc to the condensers constantly varies with the size of the opening in the iris aperture causing the light from the condensers to just cover the opening at all times, thereby attaining the highest possible light efficiency, a clean white spot, and practically the same brightness on large spreads as on small spots. The objective lens carriage is provided with a handle conveniently located so that the operator may focus the spot to the desired sharpness at will.

The lamp burner and feed controls are exactly the same as those used in our High Intensity Projection Lamps. For 60 to 70 amperes the type HIR burner shown in the cut of the spotlight with doors open is used. For 80 to 120 amperes and more the FR-10 burner is used. The burner is so mounted in the lamp housing that by means of three knobs it may be quickly adjusted for centre and focus. Regular high intensity projector carbons are used in these lamps.

Color slides, boomerang and their operating cords and buttons are arranged as usual. A noiseless blower for cooling colored gelatin is provided, instantly controllable, and an auxiliary objective lens for extremely wide spreads is located between the main lens and apertures. A fading iris shutter is also provided and is easily operated. Fittings for attaching standard effects are located on the boomerang. Counter-balancing is accomplished by means of a suitable spring and levers, instead of the usual weights.



Three times the amount of light—no increase in amperage.

18,600 Lumens of Light Flux on Full Spread.

7,500,000 Beam Candle Power at 120 Amperes.

NOTE: For 120 Amps. the FR-10 Projection Lamphouse is Furnished

Courtesy Tom Wilson

That lamp was a variation on its immediate predecessor, designed for the Keith-Albee vaudeville circuit, who knew what they wanted.

New and Improved Equipment

A Review of the Latest Developments in Theatre Engineering

K-A Technician Develops High Intensity Spot

A HIGH INTENSITY SPOTLIGHT has been perfected by the Keith-Albee-Orpheum Projection Department in conjunction with Hall & Connolly Co.

The salient points of the new light, which has been installed in the E. F. Albee Theatre, Brooklyn, and will be added to the equipment of the other Keith-Albee-Orpheum houses as soon as they can be made, are these:

Gives three times the amount of illumination of the carbon arc light for a given amount of current or amperage.

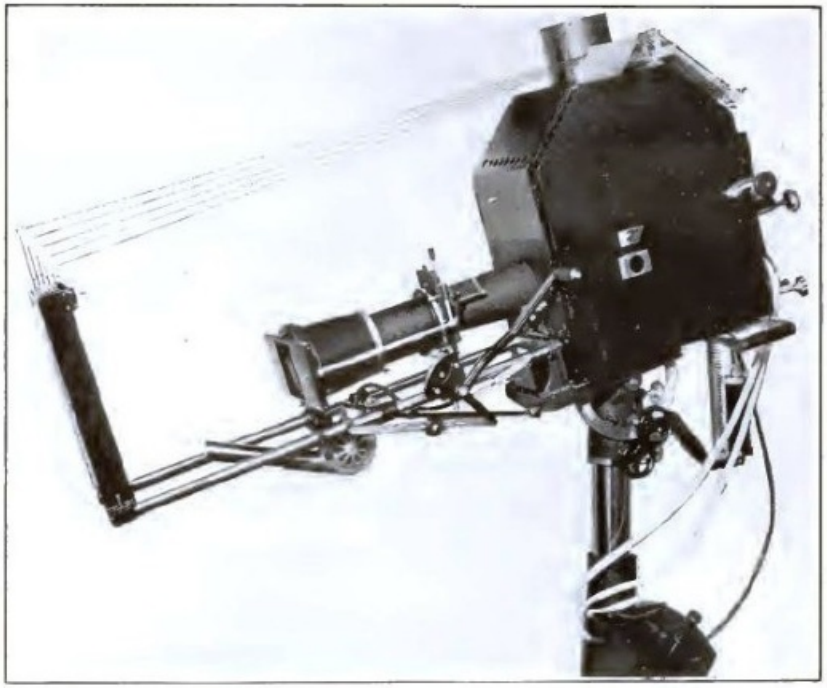
Projects a quality of light having all the appearance of strong sunlight, and brings out colors in stronger contrast.

Projects a perfect round spot.

So flexible that a number of effects can be accomplished with great ease.

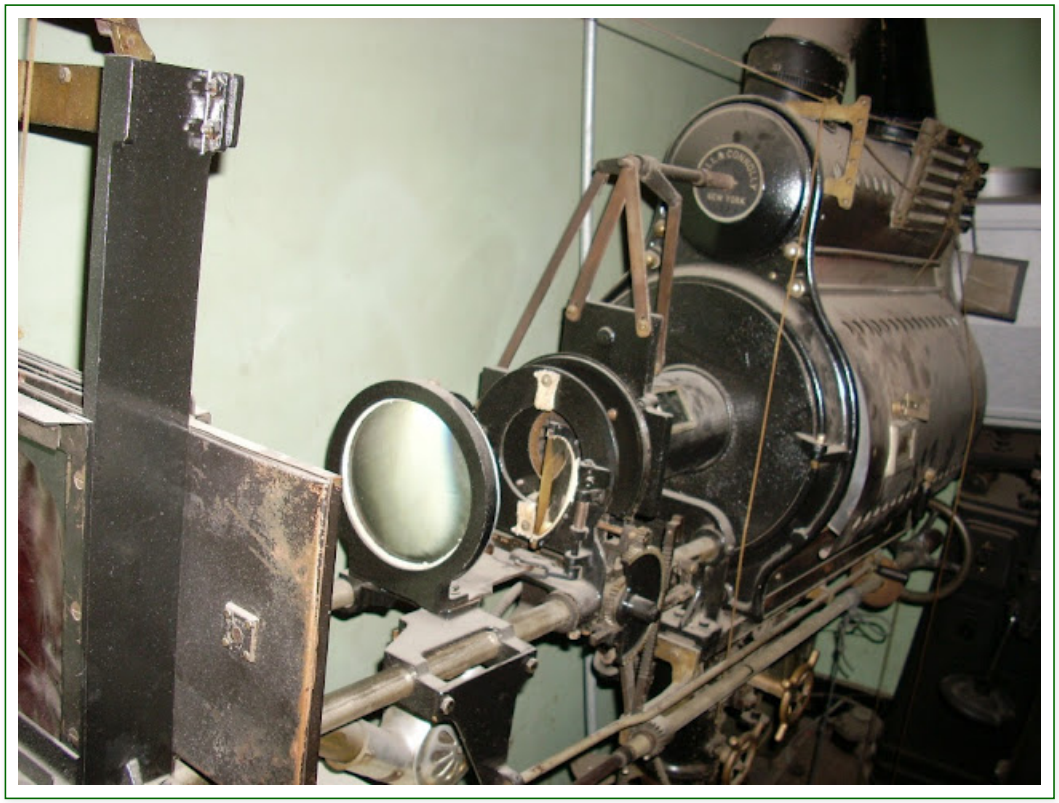
It can also be used as a flood light and as an effect machine. The lamp and lamphouse are mounted on a suitable adjustable and counter-balanced stand. Moveable condenser lens carriage is provided in the lamphouse so that the light may be focused without moving the lamp burner. Various effects can be secured by merely moving the operating handle.

H. H. Stoll of the K-A technical department, has been working to perfect the light for eighteen months.

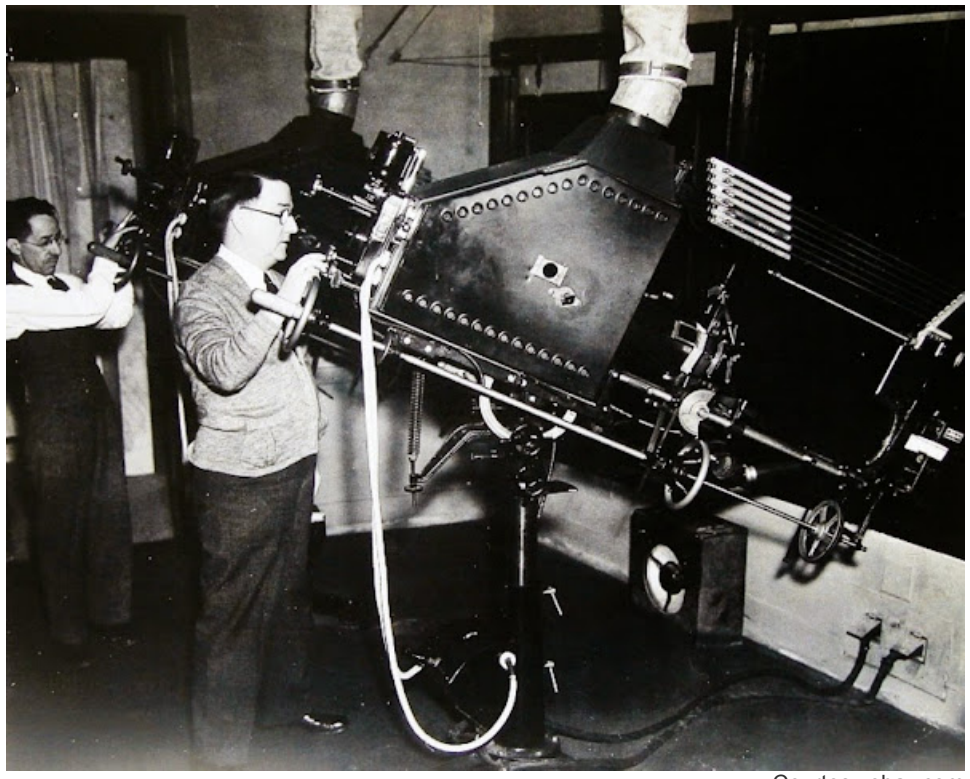


The photo above shows the high Intensity Spotlight developed by the K-A-O technical department in association with Hall & Connolly Co.

To "strike an arc," the operator moved the positive rod to meet the negative in an instantaneous movement, which created the arc. If the rods drifted too far apart, the light would fade out. The Fox HC spotlight in 2013:

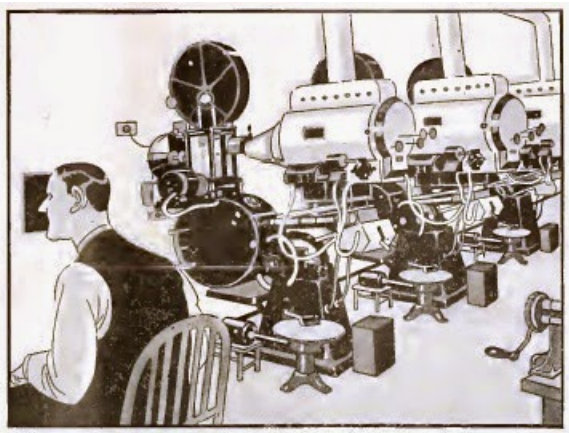


"Cheaters" were pin holes drilled into the top front of a Front Light lamp house, which shown a tiny beam of light on the wall above the portal window. A small chart showing the stage would be drawn there, and pointing the beam to a given mark would allow blind and precise pickups. Below a Hall & Connolly EF-4 in an unknown booth.



Courtesy ebay.com

All carbon arc lamps emitted poison fumes which had constantly to be purged from the booth via exhaust fans. Once the carbon rods had burned down until they were too short to use, they would be removed with pliers and dropped into sand buckets provided at each device.



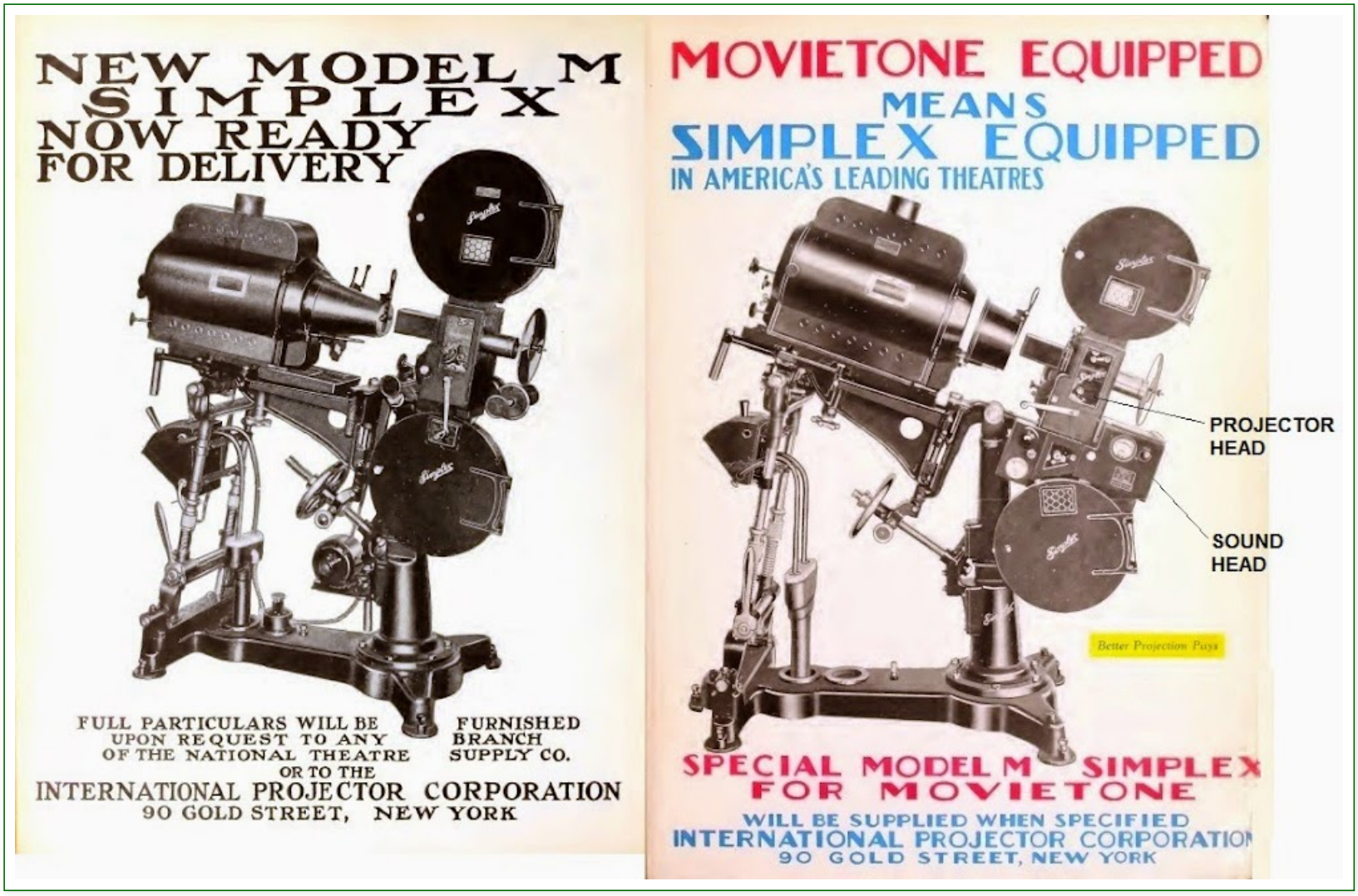
National Projector Carbons are more economical

THE NATIONAL PROJECTOR ORO-TIP NEGATIVE CARBONS will not pencil under high intensities. This prevents sputtering and flickering pictures. An arc produced with these carbons, and National Projector Positives, insures such effortless ease of projection that the audience will be free to enjoy the picture on the screen. The positive carbons form deep, well-rounded craters. This helps to convert a greater percentage of electrical current into light rays . . . thus giving *more economical projection.*

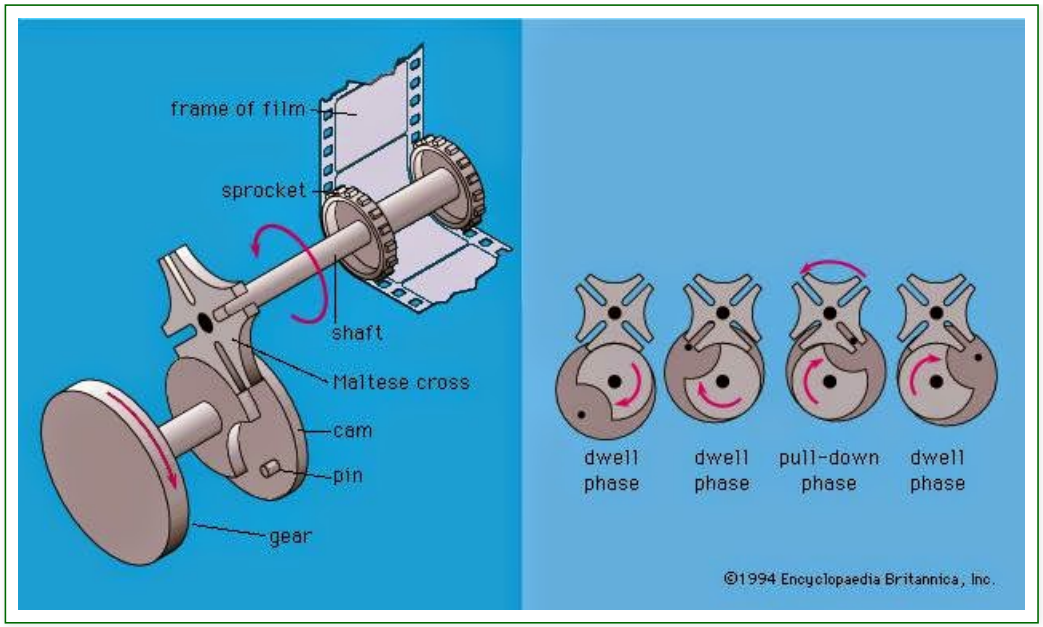
NATIONAL CARBON CO., INC. *Carbon Sales Division:* Cleveland, Ohio
BRANCH SALES OFFICES
New York, N. Y. Pittsburgh, Pa. Chicago, Ill. Birmingham, Ala. San Francisco, Cal.
Unit of Union Carbide UCC *and Carbon Corporation*

NATIONAL PROJECTOR CARBONS

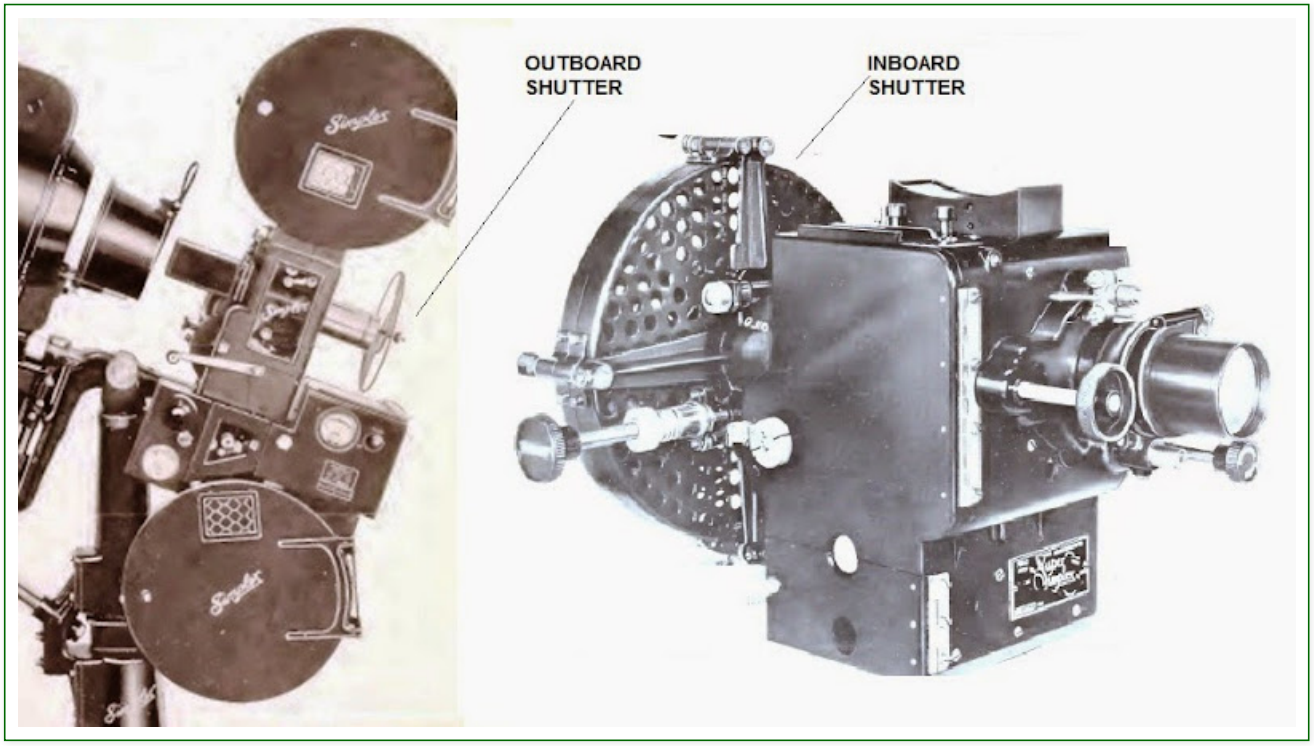
Western adapted the Simplex brand of projector for conversion to sound. Below, the silent Simplex Model M (left), with Movietone sound head added (right).



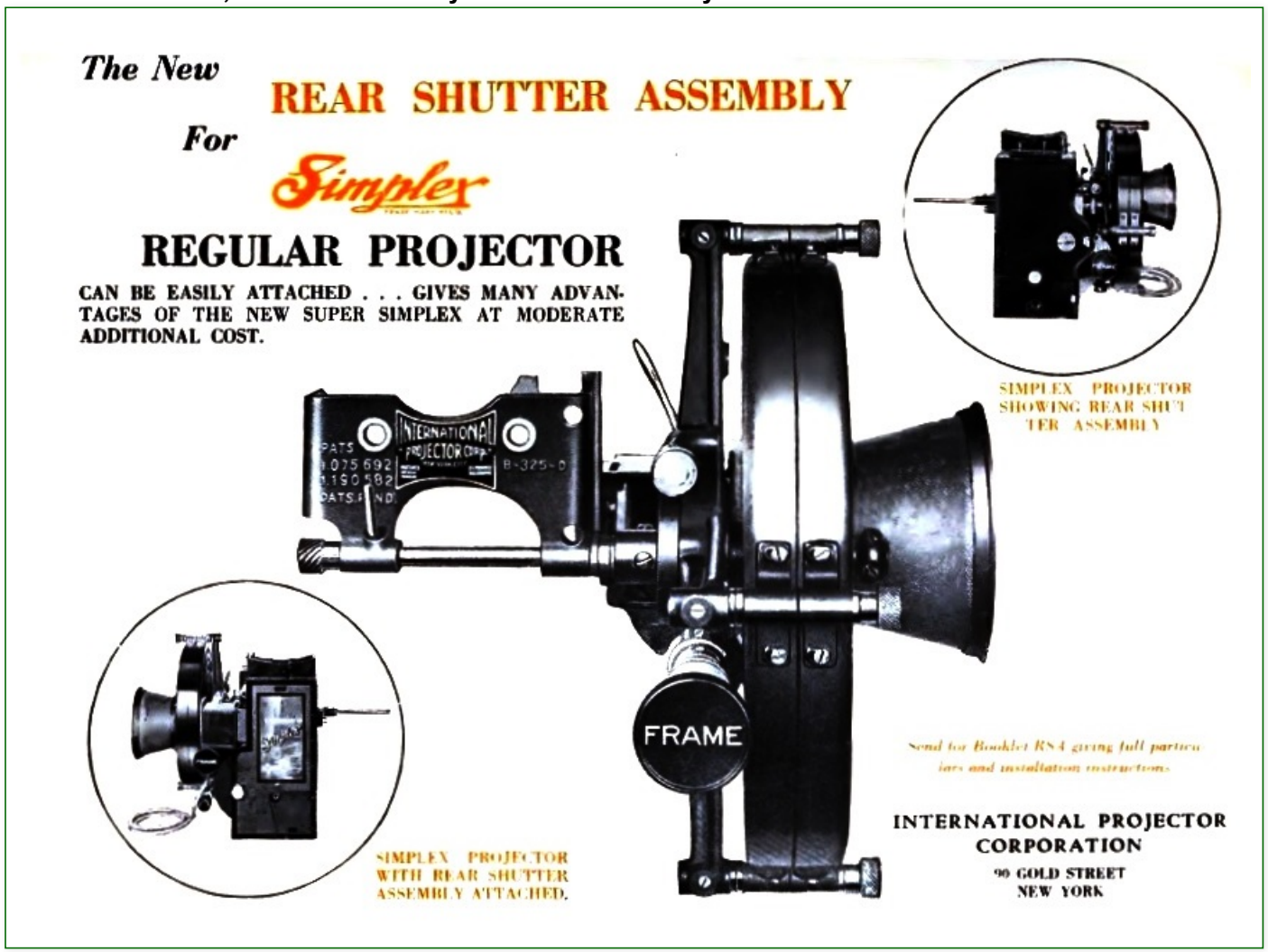
The principal behind projection was the combining of a pull-down sprocket (the geneva gear-driven intermittent) and a shutter which would conceal the pull down motion from view.



The improved Simplex "Super" model which was installed at the Atlanta Fox eliminated the outboard shutter whose unguarded rotation could easily cause bodily harm to the operator.



A closer look at the inboard shutter, which immediately became the industry standard.


The New
REAR SHUTTER ASSEMBLY
For
Simplex
REGULAR PROJECTOR
CAN BE EASILY ATTACHED . . . GIVES MANY ADVANTAGES OF THE NEW SUPER SIMPLEX AT MODERATE ADDITIONAL COST.
INTERNATIONAL PROJECTOR CORP
FRAME
SIMPLEX PROJECTOR SHOWING REAR SHUTTER ASSEMBLY
SIMPLEX PROJECTOR WITH REAR SHUTTER ASSEMBLY ATTACHED.
Send for Booklet RSA giving full particulars and installation instructions
INTERNATIONAL PROJECTOR CORPORATION
90 GOLD STREET
NEW YORK

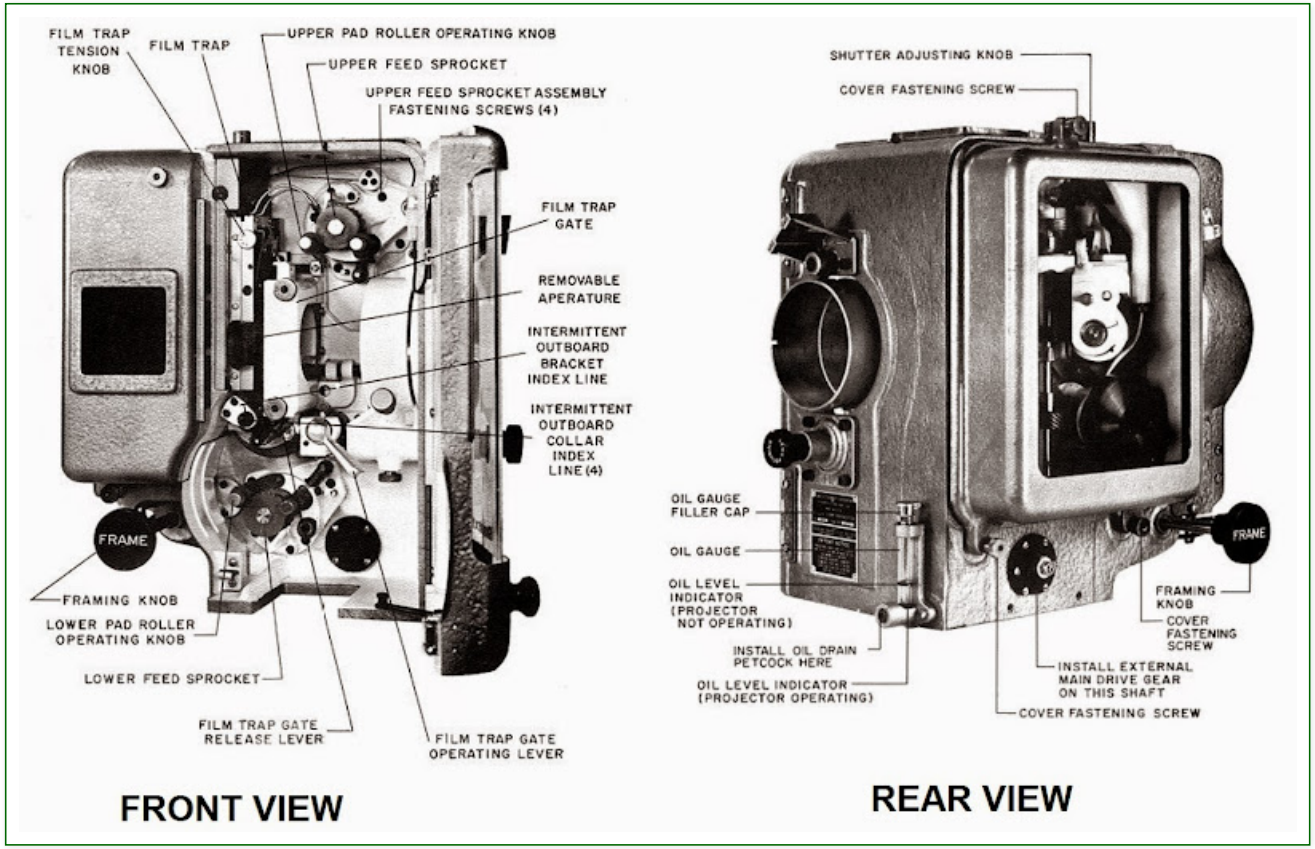
The inboard shutter also vastly reduced temperature at the film gate, as an excerpt from this Basson & Stern advertisement reveals.

The results of a test made by the Massachusetts Department of Public Safety in a Boston theatre on January 19, 1930, are as follows:

Before Installation of B.&S. Rear Shutter Aperture Heat (Fahrenheit): 1250	*After Installation of B.&S. Rear Shutter Aperture Heat (Fahrenheit): 340 to 350*

This test disclosed a reduction of 900° in heat at the aperture.

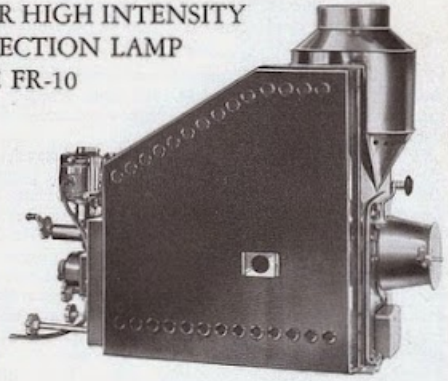
35MM motion picture projectors were precision machines whose works were sprayed and bathed with oil during operation and which could be viewed through glass (right). Running at a speed of a foot and a half per second, film improperly threaded would be torn to shreds in a instant. An automatic fire shutter (dowser) would not open until the machine was up to speed, or otherwise the still or slow-moving film would be ignited.



The Fox Super Simplex machines were equipped with Hall and Connolly FR-10 lamp houses. Viewing the burning arc directly could result

in blindness, so a small glass UV peep hole was placed in the door so that the flame could be monitored. All of the Fox lamps were equipped with motorized carbon rod feed motors. Projector lamp houses included a heat dowser which would not be lifted until just prior to usage, so the extreme heat could not melt the works.

SUPER HIGH INTENSITY
PROJECTION LAMP
TYPE FR-10



(Sperry Patents — Hall & Connolly Patents)

Capacity 120 to 225 Amperes
(Approved by the National Board of Fire Underwriters)

Length Overall 37" Height Overall 29¼"
Width Overall 19½" Net Weight 142 lbs.

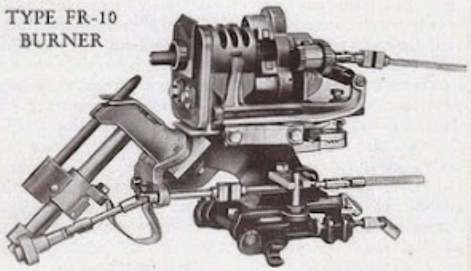
This unit was designed and put into production late in 1929 and represents the ultimate in projection lamps at the time this is being written. It was designed to meet, and if possible to anticipate the rapid progress in Motion Picture Projection.

ADVANTAGES OVER OUR OTHER TYPES OF PROJECTION LAMPS:

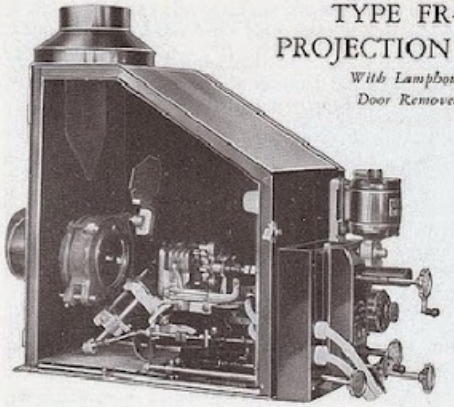
1. Ruggedness in general construction and high capacity; 120 to 225 amperes. It will furnish enough light for any size of picture.
2. Greater convenience in operating and maintaining.
3. Special stabilized arc giving more light per ampere and a more steady and uniform illumination.
4. Magnetic repulsion of the arc flame causing the long arc flame to lean back away from the condenser lenses.
5. The shape and size of the lamp and lamphouse are such that any kind and diameter of condenser now manufactured may be properly mounted and focused.
6. A new type of condenser mount is provided to properly adapt the new high efficiency 6" diameter condensers, and to properly protect these expensive lenses from breakage.
7. An entirely different shape of lamp house directing the air currents in a manner technically correct and thus insuring sufficient cooling of the lamp at full capacity amperage.
8. The important bearings in the burner are provided with rollers of special design to give the greatest possible freedom of motion at extremely high temperatures.

This lamp when provided with the special lenses which we recommend will give 55% more light per amperes. Therefore, this lamp is much more economical to use than the others, even for standard film projection and in moderate size theatres. Then there is the added great advantage for the houses installing this type of lamp that when the wide films finally arrive it will not be necessary to change the lamps, as this is especially a wide film or "Grandeur" outfit.

TYPE FR-10
BURNER



TYPE FR-10
PROJECTION LAMP
With Lamphouse Door Removed

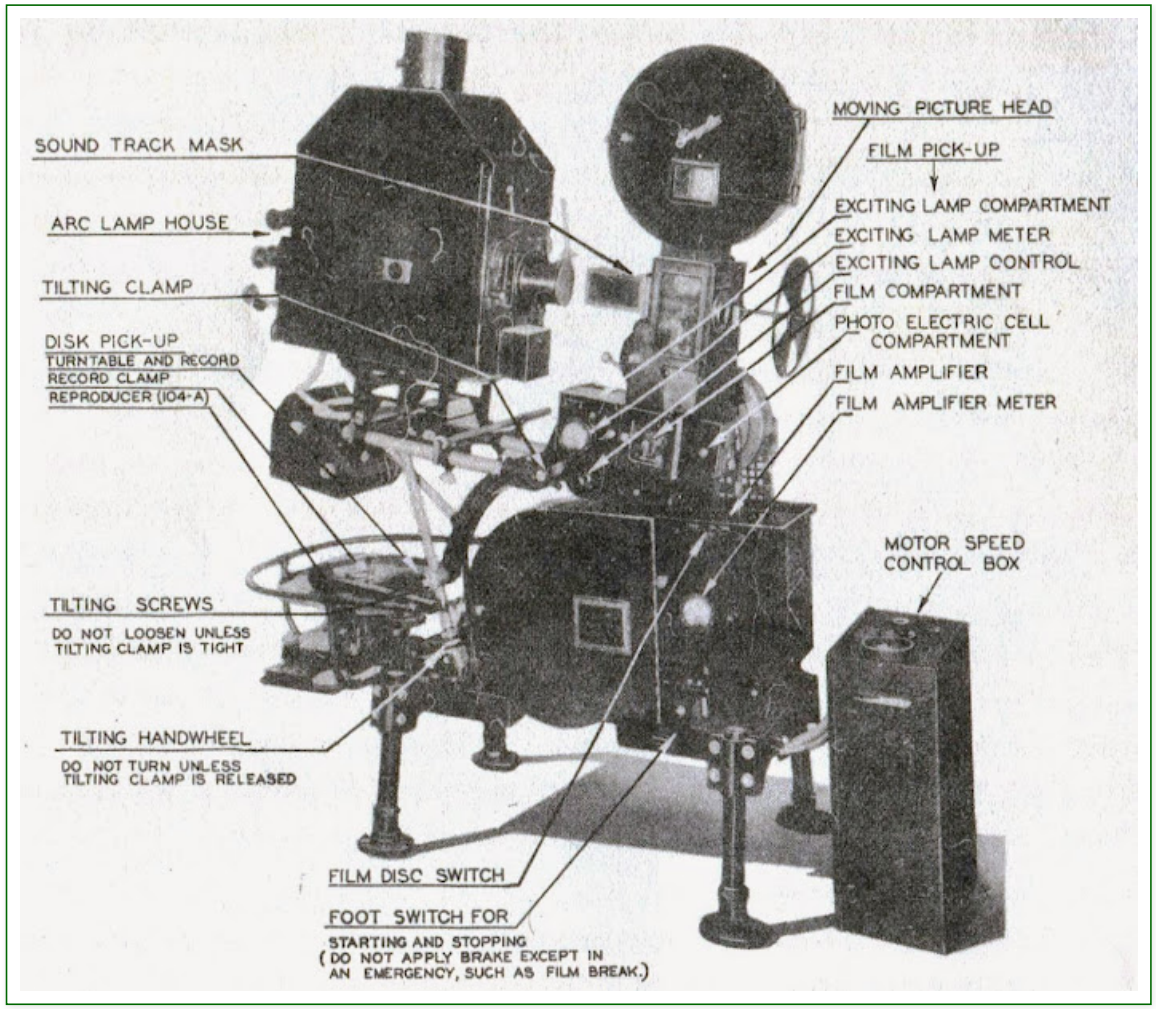


The FR-10 is fully automatic in operation. For arc regulation it depends on the changing speed of a very sensitive motor directly geared to the positive carbon feed and rotation and to the negative carbon feed. Initial regulation of the rate of feed, or arc length is made by means of a knob, pointer, and graduated scale of the potentiometer resistance unit located on the back of the lamp housing. Combined hand feed and rotation is provided for the positive carbon and independent hand feed for the negative. All parts of the lamp are accessible and easily removable. Special attention has been given to features insuring reliability and providing for emergency operation to avoid accidental interruption in the exhibition of a picture. The lamp burner is mounted on a universal adjustable base so that it can be readily moved in all planes by means of three conveniently located hand knobs.

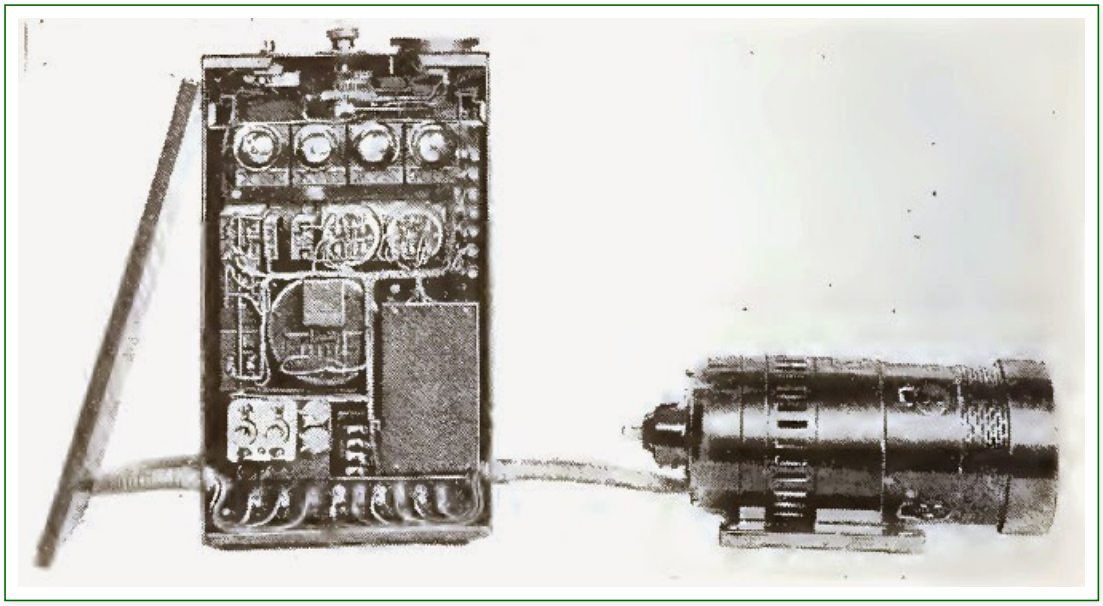
The large diameter condenser lenses are mounted in an exceptionally heavy mount, of a unique design, practically eliminating condenser breakage. An adequate protective lens douser of heat resisting metal is provided. The douser disc is electrically insulated from the lamp and lamphouse.

Courtesy Tom Wilson

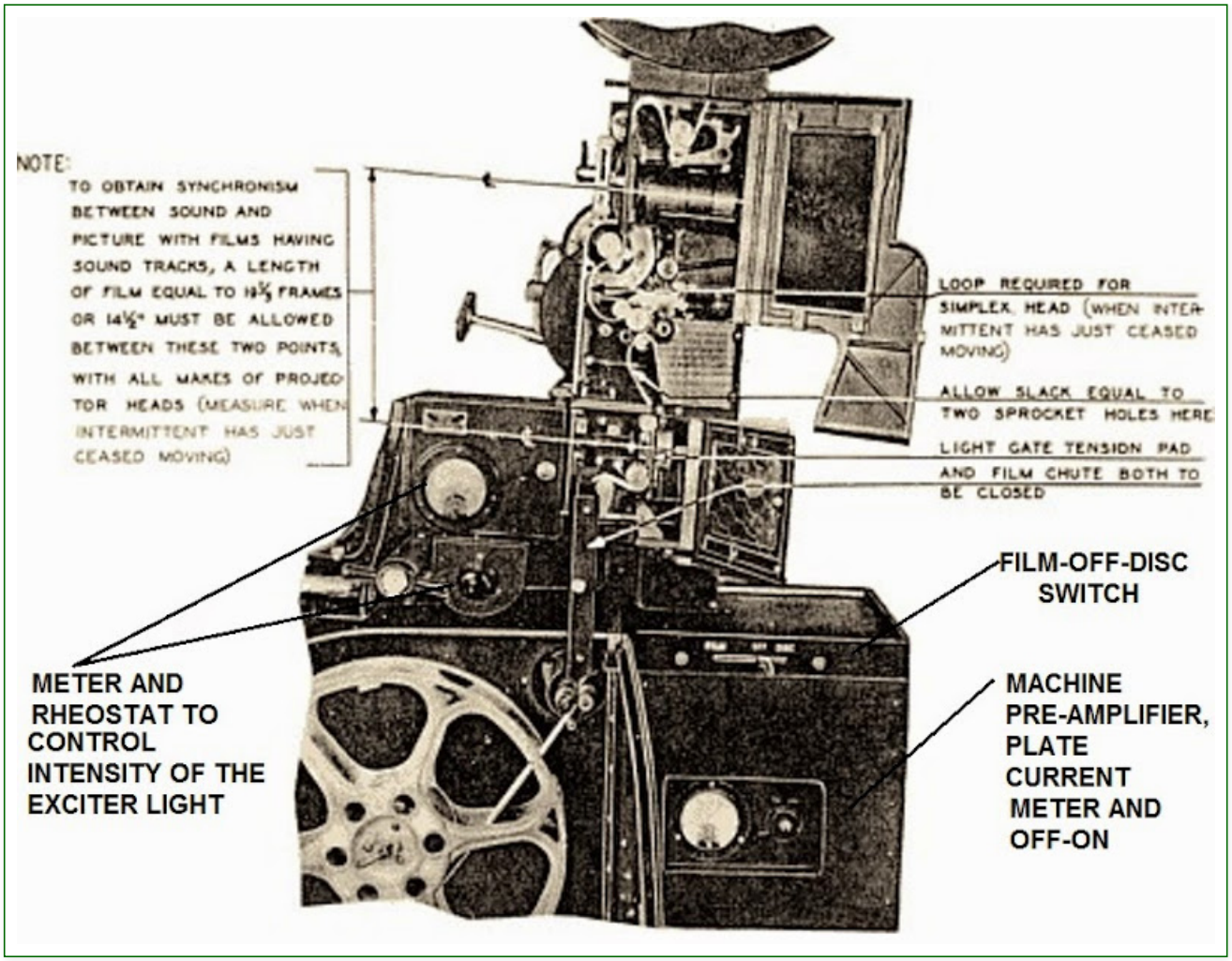
The ERPI Simplex projector equipped for both Vitaphone and Movietone.



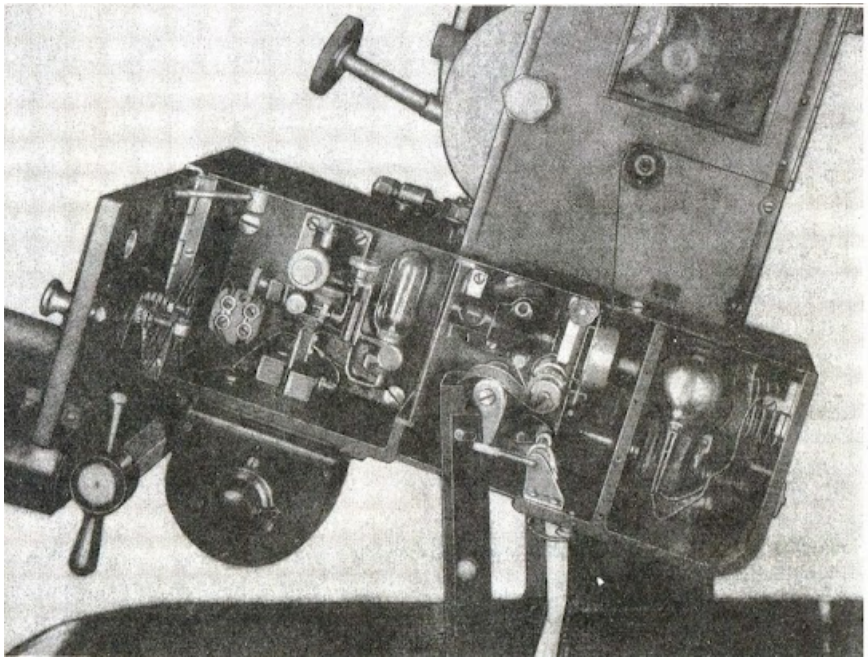
Constant speed within a very close tolerance was provided by the electronic controller for the synchronous motor. Selection could be made between "REG" (sound) and "VAR" (silent), with a variable range for the latter of 75 to 112 feet per minute.

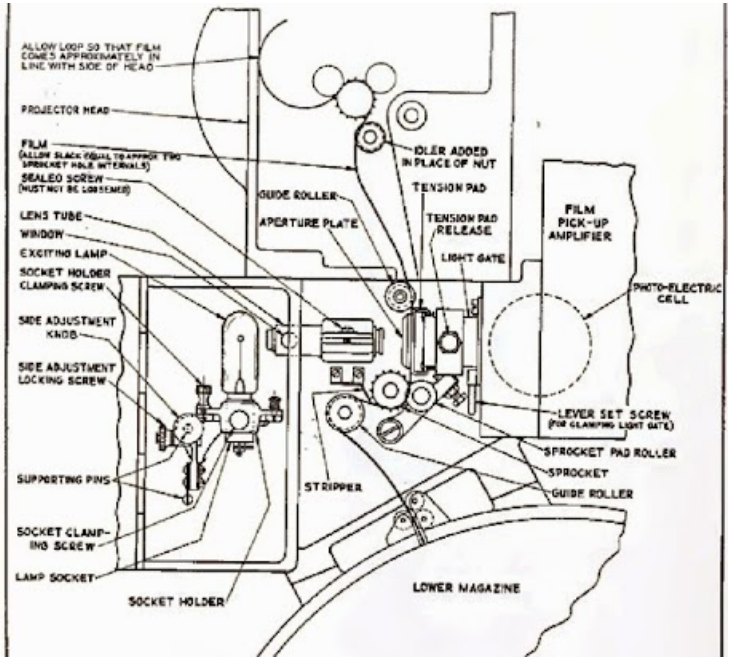


The head for sound-on-film nestled between the projection head and the lower film magazine.


NOTE:
TO OBTAIN SYNCHRONISM BETWEEN SOUND AND PICTURE WITH FILMS HAVING SOUND TRACKS, A LENGTH OF FILM EQUAL TO 19⅝ FRAMES OR 14½" MUST BE ALLOWED BETWEEN THESE TWO POINTS, WITH ALL MAKES OF PROJECTOR HEADS (MEASURE WHEN INTERMITTENT HAS JUST CEASED MOVING)
LOOP REQUIRED FOR SIMPLEX HEAD (WHEN INTERMITTENT HAS JUST CEASED MOVING)
ALLOW SLACK EQUAL TO TWO SPROCKET HOLES HERE
LIGHT GATE TENSION PAD AND FILM CHUTE BOTH TO BE CLOSED
FILM-OFF-DISC SWITCH
METER AND RHEOSTAT TO CONTROL INTENSITY OF THE EXCITER LIGHT
MACHINE PRE-AMPLIFIER, PLATE CURRENT METER AND OFF-ON

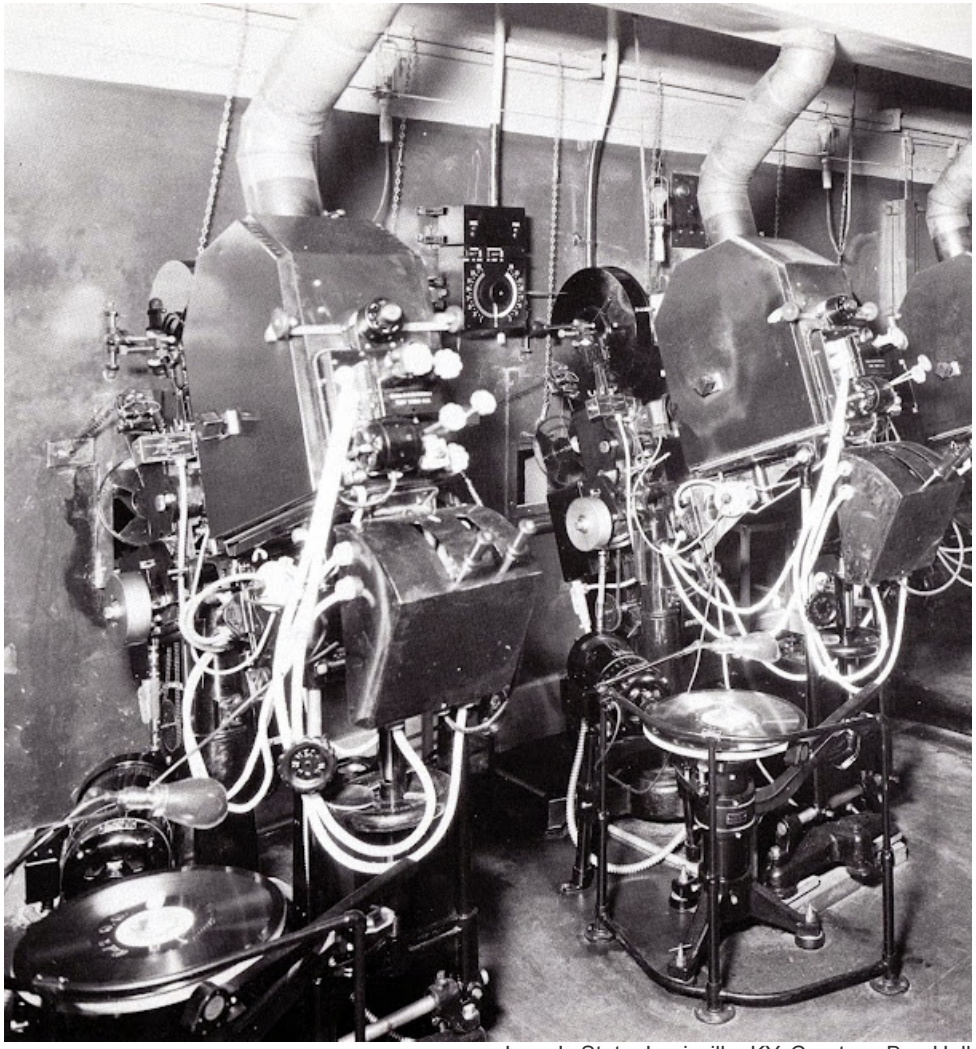
Sound-on-film threading, on the one hand, was business as usual for the operator.




ALLOW LOOP SO THAT FILM COMES APPROXIMATELY IN LINE WITH SIDE OF HEAD
PROJECTOR HEAD
FILM
SEALED SCREW
LENS TUBE
WINDOW
EXCITING LAMP
SOCKET HOLDER CLAMPING SCREW
SIDE ADJUSTMENT KNOB
SIDE ADJUSTMENT LOCKING SCREW
SUPPORTING PINS
SOCKET CLAMPING SCREW
LAMP SOCKET
SOCKET HOLDER
IDLER ADDED IN PLACE OF NUT
GUIDE ROLLER
TENSION PAD
APERTURE PLATE
TENSION PAD RELEASE
LIGHT GATE
FILM PICK-UP AMPLIFIER
PHOTO-ELECTRIC CELL
LEVER SET SCREW
SPROCKET PAD ROLLER
SPROCKET
GUIDE ROLLER
STRIPPER
LOWER MAGAZINE

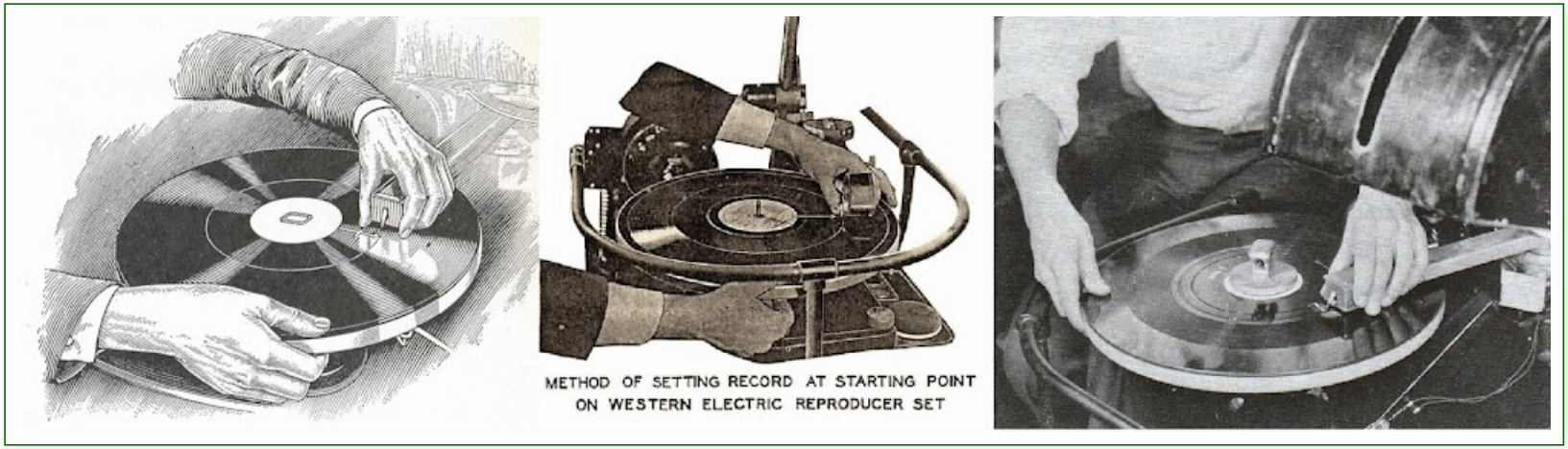
Courtesy Kevin Wheelan Screeing Room

On the other hand, Vitaphone, which most probably was never used at the Fox, was arduous. Driven by the same motor as the projector, the reproducer (turntable) was located behind and to the left of each machine, with work light and knee-guard.

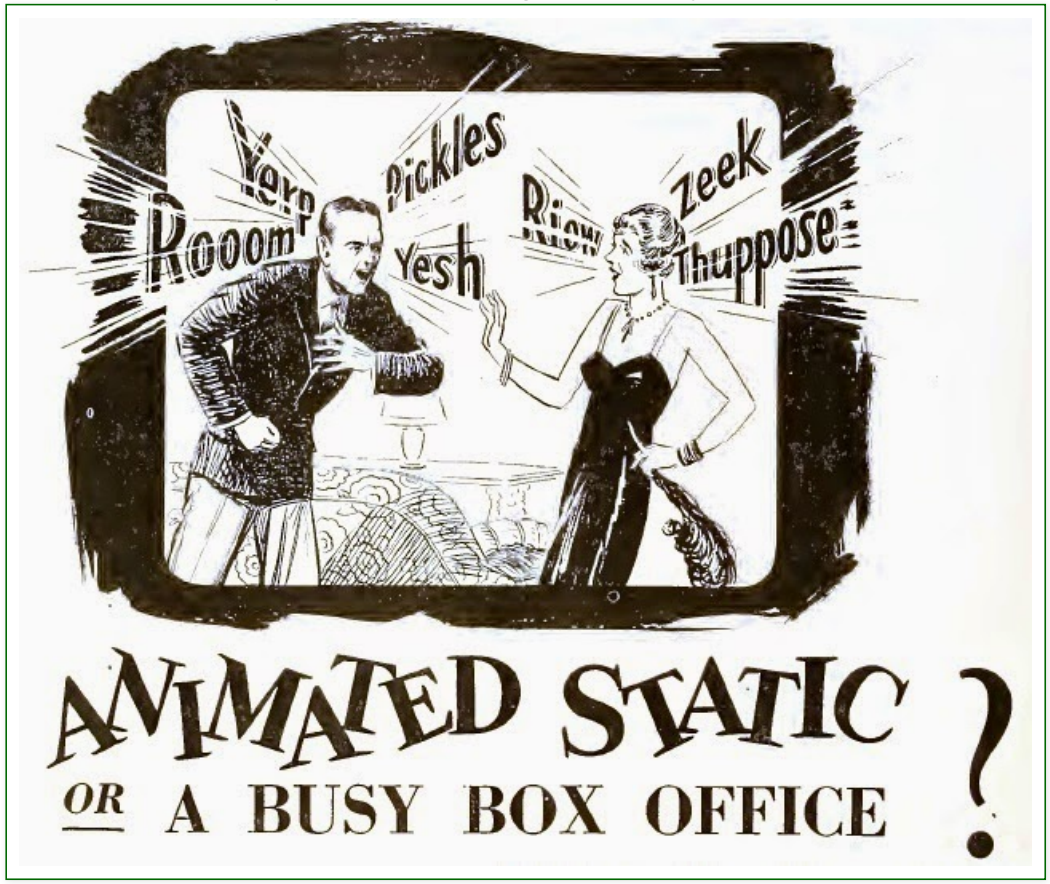


Loew's State, Louisville, KY, Courtesy Ben Hall

To synchronize the film with the disc, the operator threaded the print to a cue mark within the leader and set the needle on a white dot painted onto the disc.



If the disc did not sync at the top of the reel, or if sync was lost during a reel, everyone was out of luck.



From the instruction booklet: ***"Set up record on turntable as shown in Figure 13. In doing this, following method must be strictly observed so as to avoid risk of imperfect synchronization. Motor must never be turned while adjusting record on turntable. Hold record with both hands, lay it on turntable so that starting arrow is about at the place where needle comes. Wipe off record lightly with cleaner provided..."***

Courtesy Kevin Wheelan Screening Room

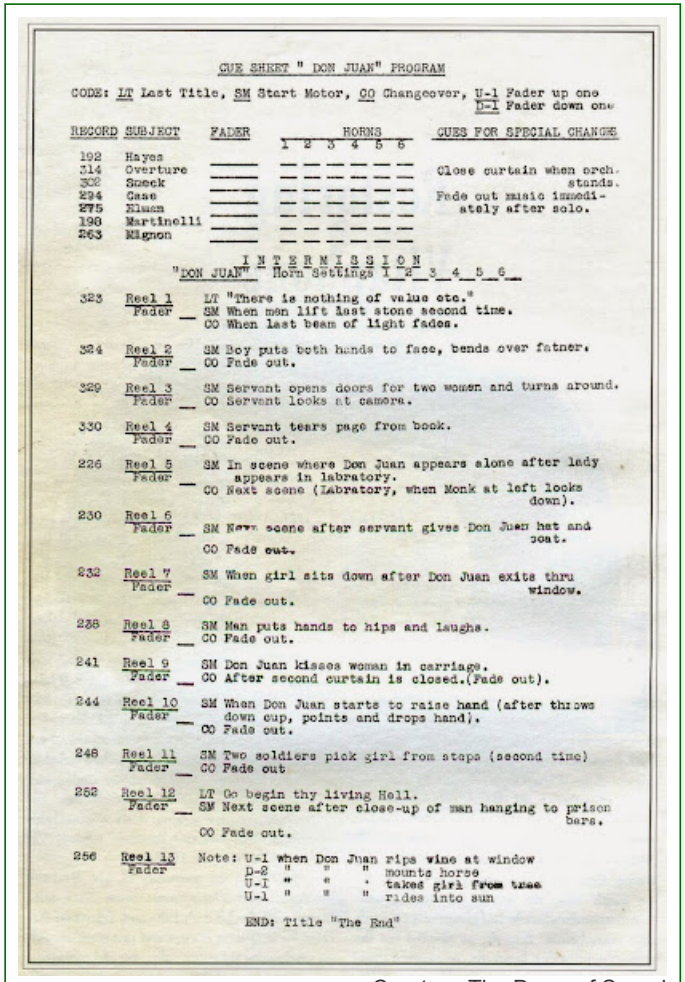
A new needle was inserted before each play, but the discs were good for only twenty playings, and each block ticked off properly.

Courtesy The Dawn of Sound

Because the average theatre played a film a minimum of twenty-eight times a week, two sets of discs were required. Both cumbersome and fragile, they required special storage cabinets within the booth. ***"Keep all records in the envelopes they come in, when not in use. Put each record in its envelope with the playing side next the felt [sic], and facing you. Keep the records in correct order for next show."***

Loew's Jersey Theatre, Courtesy filmadvocacy.com

Vitaphone disc time controlled the projection reel sizes. The discs did not have sufficient playing time for the operator to "double up" to 2000 foot reels (twenty minutes), so standard eleven minute reels were utilized, requiring twice as many changeovers and doubling the opportunity for sync error.



CUE SHEET " DON JUAN" PROGRAM

CODE: LT Last Title, SM Start Motor, CO Changeover, U-1 Fader up one
D-1 Fader down one

RECORD	SUBJECT	FADER	HORNS 1 2 3 4 5 6	CUES FOR SPECIAL CHANGE
192	Hayes			
314	Overture			Close curtain when orch. stands.
302	Smeck			
294	Case			Fade out music immediately after solo.
275	Kluan			
198	Martinelli			
263	Mignon			

INTERMISSION

"DON JUAN" Horn Settings 1 2 3 4 5 6

323 Reel 1 Fader
SM "There is nothing of value etc."
SM When men lift last stone second time.
CO When last beam of light fades.

324 Reel 2 Fader
SM Boy puts both hands to face, bends over father.
CO Fade out.

329 Reel 3 Fader
SM Servant opens doors for two women and turns around.
CO Servant looks at camera.

330 Reel 4 Fader
SM Servant tears page from book.
CO Fade out.

226 Reel 5 Fader
SM In scene where Don Juan appears alone after lady appears in labratory.
CO Next scene (Labratory, when Monk at left looks down).

230 Reel 6 Fader
SM New scene after servant gives Don Juan hat and coat.
CO Fade out.

232 Reel 7 Fader
SM When girl sits down after Don Juan exits thru window.
CO Fade out.

236 Reel 8 Fader
SM Man puts hands to hips and laughs.
CO Fade out.

241 Reel 9 Fader
SM Don Juan kisses woman in carriage.
CO After second curtain is closed.(Fade out).

244 Reel 10 Fader
SM When Don Juan starts to raise hand (after throws down cup, points and drops hand).
CO Fade out.

248 Reel 11 Fader
SM Two soldiers pick girl from steps (second time)
CO Fade out

252 Reel 12 Fader
LT Go begin thy living Hell.
SM Next scene after close-up of man hanging to prison bars.
CO Fade out.

256 Reel 13 Fader
Note: U-1 when Don Juan rips wine at window
D-2 " " " mounts horse
U-1 " " " takes girl from tree
U-1 " " " rides into sun

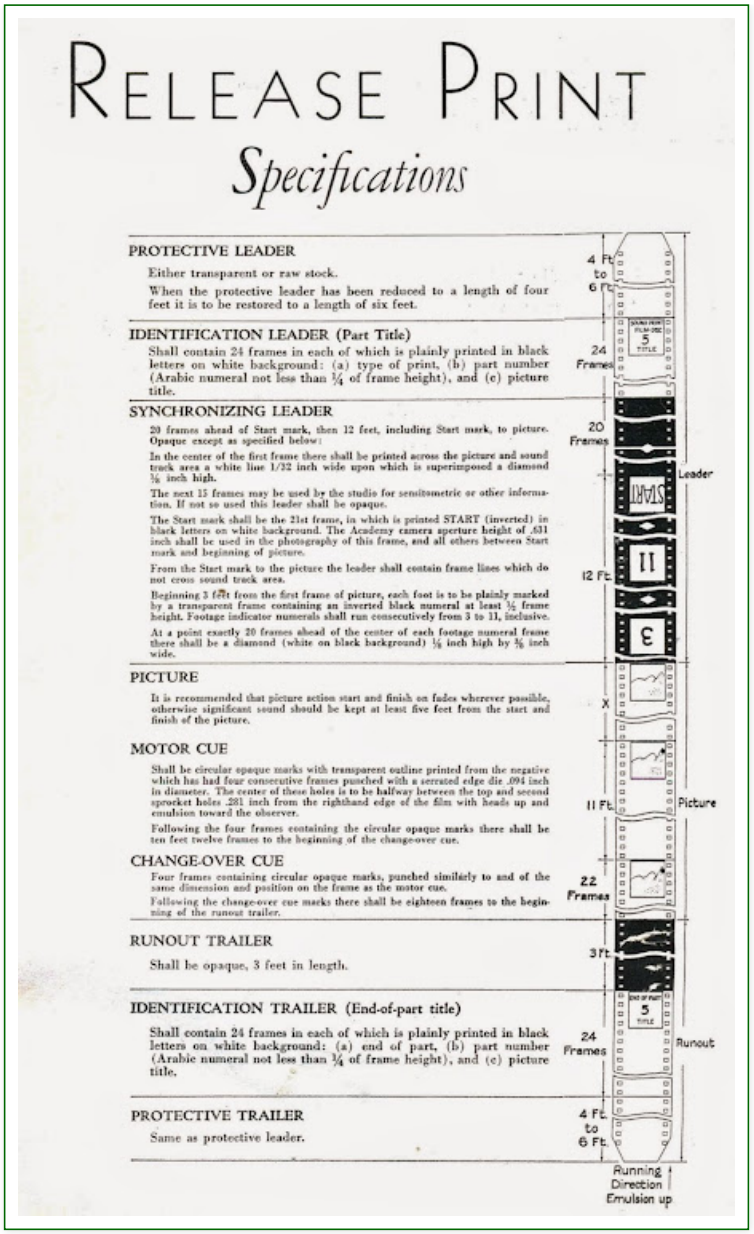
END: Title "The End"

Courtesy The Dawn of Sound

Changeovers were hit or miss because of the vagaries of written cue sheets, so operators began marking their own cue dots.

Courtesy sandiegoreader.com

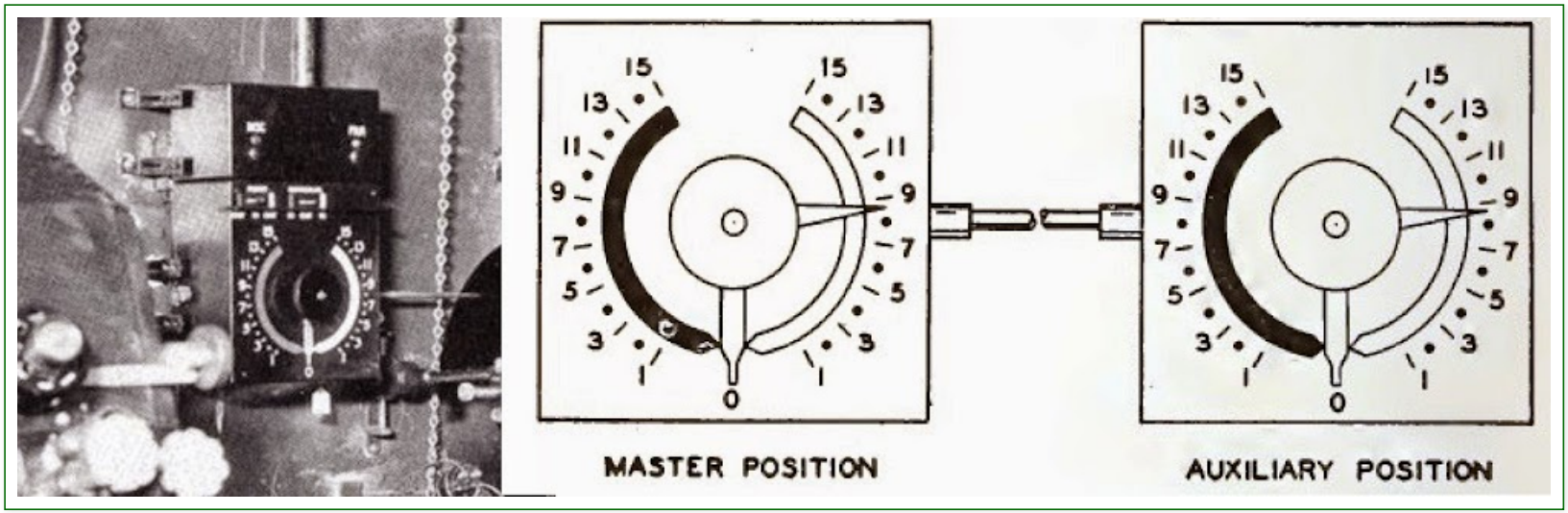
By 1931, the Society of Motion Picture Engineers (SMPE) had issued directives for a standardized release print which changeover cues included. The number "8" is centered in the film gate when threading, allowing about five seconds from start to changeover.


RELEASE PRINT
Specifications
PROTECTIVE LEADER
Either transparent or raw stock.
When the protective leader has been reduced to a length of four feet it is to be restored to a length of six feet.
4 Ft. to 6 Ft.
IDENTIFICATION LEADER (Part Title)
Shall contain 24 frames in each of which is plainly printed in black letters on white background: (a) type of print, (b) part number (Arabic numeral not less than ¼ of frame height), and (c) picture title.
24 Frames
SYNCHRONIZING LEADER
20 frames ahead of Start mark, then 12 feet, including Start mark, to picture. Opaque except as specified below:
In the center of the first frame there shall be printed across the picture and sound track area a white line 1/32 inch wide upon which is superimposed a diamond ⅛ inch high.
The next 15 frames may be used by the studio for sensitometric or other information. If not so used this leader shall be opaque.
The Start mark shall be the 21st frame, in which is printed START (inverted) in black letters on white background. The Academy camera aperture height of .631 inch shall be used in the photography of this frame, and all others between Start mark and beginning of picture.
From the Start mark to the picture the leader shall contain frame lines which do not cross sound track area.
Beginning 3 feet from the first frame of picture, each foot is to be plainly marked by a transparent frame containing an inverted black numeral at least ½ frame height. Footage indicator numerals shall run consecutively from 3 to 11, inclusive.
At a point exactly 20 frames ahead of the center of each footage numeral frame there shall be a diamond (white on black background) ⅛ inch high by ⅛ inch wide.
20 Frames
12 Ft.
Leader
PICTURE
It is recommended that picture action start and finish on fades wherever possible, otherwise significant sound should be kept at least five feet from the start and finish of the picture.
X
MOTOR CUE
Shall be circular opaque marks with transparent outline printed from the negative which has had four consecutive frames punched with a serrated edge die .094 inch in diameter. The center of these holes is to be halfway between the top and second sprocket holes .281 inch from the righthand edge of the film with heads up and emulsion toward the observer.
Following the four frames containing the circular opaque marks there shall be ten feet twelve frames to the beginning of the change-over cue.
11 Ft.
Picture
CHANGE-OVER CUE
Four frames containing circular opaque marks, punched similarly to and of the same dimension and position on the frame as the motor cue.
Following the change-over cue marks there shall be eighteen frames to the beginning of the runout trailer.
22 Frames
RUNOUT TRAILER
Shall be opaque, 3 feet in length.
3 Ft.
IDENTIFICATION TRAILER (End-of-part title)
Shall contain 24 frames in each of which is plainly printed in black letters on white background: (a) end of part, (b) part number (Arabic numeral not less than ¼ of frame height), and (c) picture title.
24 Frames
Runout
PROTECTIVE TRAILER
Same as protective leader.
4 Ft. to 6 Ft.
Running Direction Emulsion up

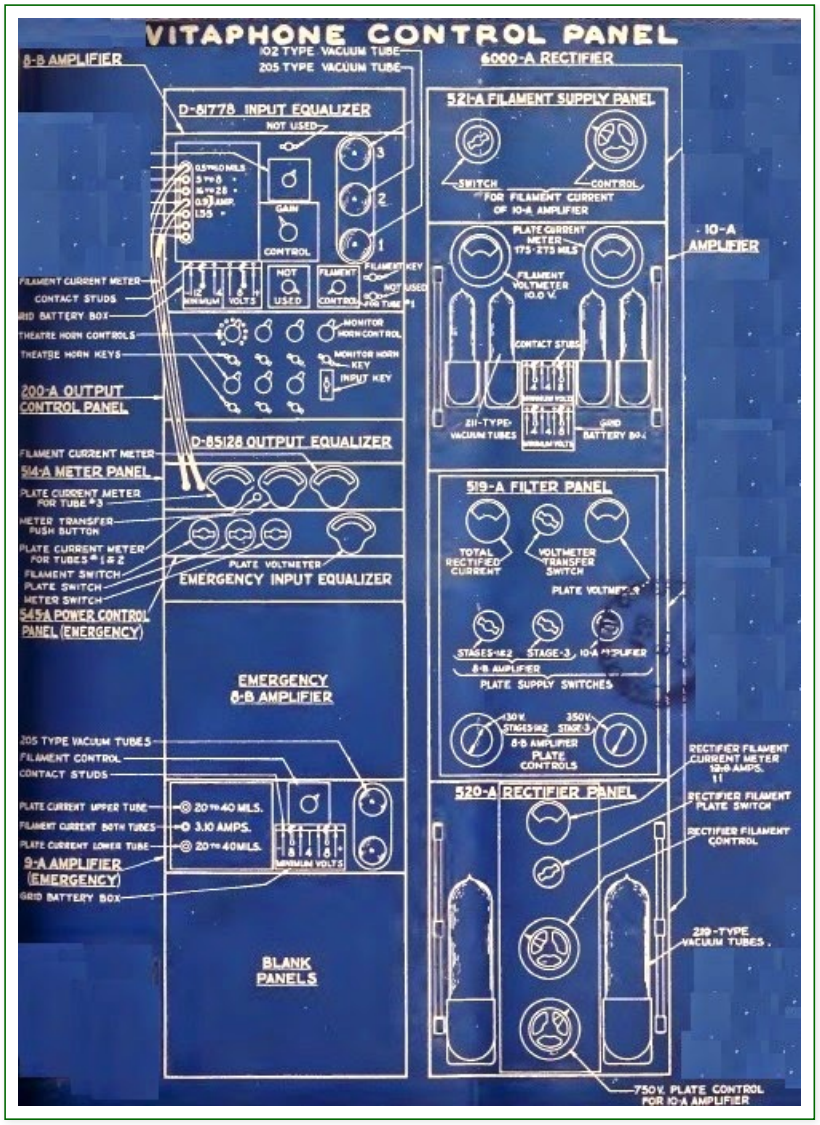
Each machine was equipped with a third shutter or dowser (after fire and lamphouse), this one for changeover between or among projectors. A foot switch activated solenoids which lifted the change dowser in Machine No. 2, and at the same time dropped its counterpart in Machine No. 1.

Zip!
-just like that
Quicker than the blink of an eye—the NEW SUPER STRONG CHANGEOVER DEVICE snaps into its job. No noise—no effort—no miscues—merely step on the treadle type foot-switch and quick as a flash there's an instantaneous noiseless fade-out and fade-in from one projector to the other.
The New Super is the latest newcomer to the famous Strong family of changeovers—developed for use on the new rear-shutter projectors—Simplex, Motiograph, R.C.A. and others. It contains the same mechanism as the famous "FIVE POINT" — which is in reality five distinctive devices in one — changeover, eyeshield, framing light, film gate opener and fire gate finger. THE COILS CAN'T BURN OUT.
The SUPER Changeover
The STRONG Footswitch
If your projectors are not equipped with STRONG changeover devices — they should be!
Ask your nearest supply dealer or write to LARRY STRONG of the
Strong
ESSANAY ELECTRIC MANUFACTURING CO.
2849 W. VAN BUREN ST. — CHICAGO, ILL.

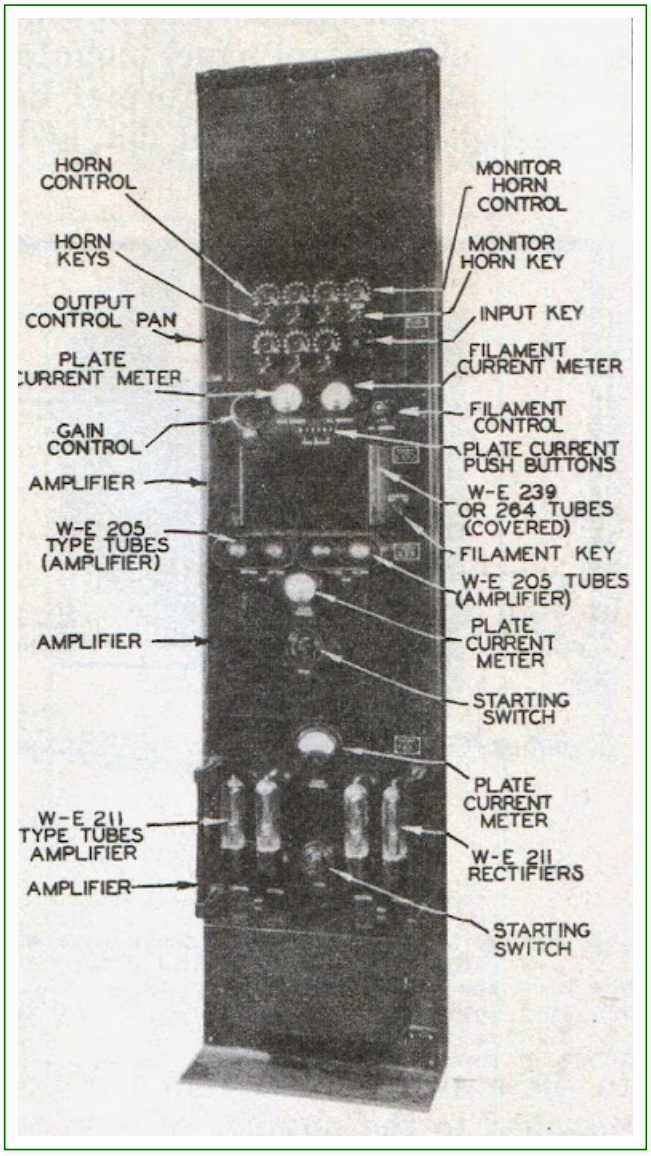
With his hands free, the operator changed the projector audio outputs. Western Electric faders were designed neither as an A/B switch nor as a cross-fader, but rather the output from one machine would be faded completely out before the other brought in. The "master" contained the rheostat, the others "auxiliary" dummies were mechanical slaves connected together by a slim shaft. *"Never move fader from zero before motor has reached full speed, as this will completely spoil beginning of speech or music."*



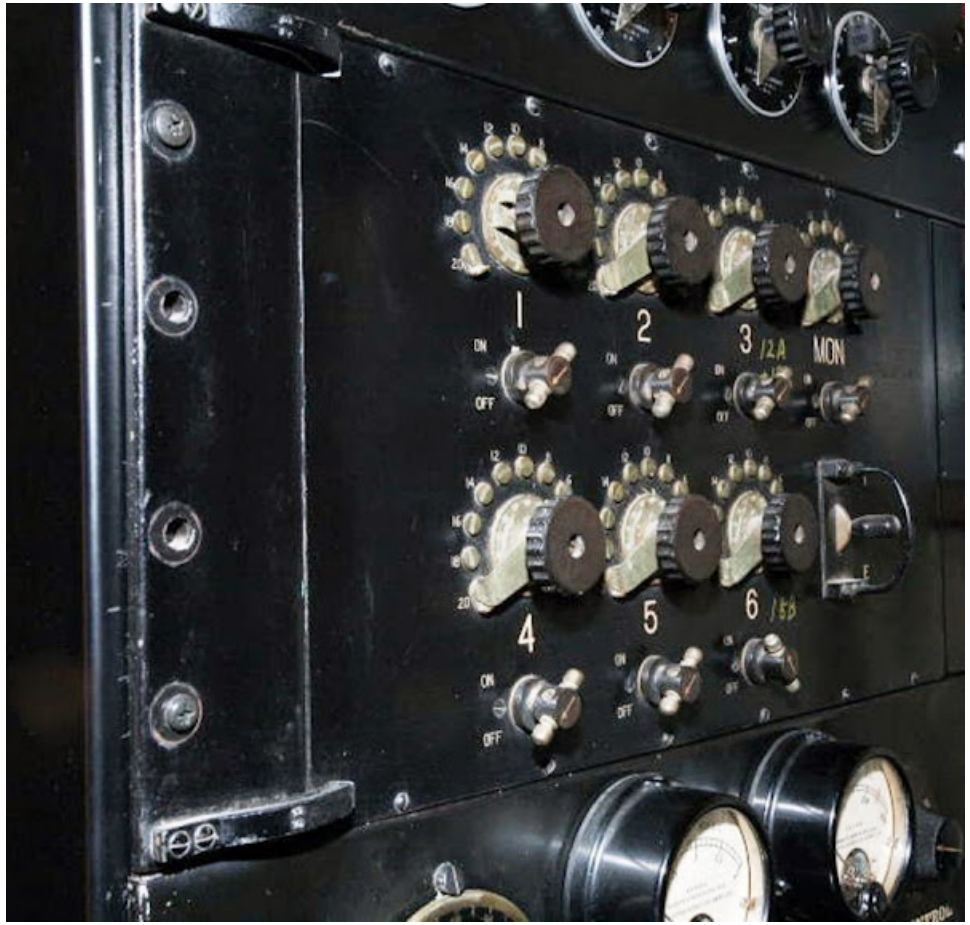
The prototypical amplifier racks for Western utilized stock parts from their broadcast devices.



In production, the dual racks were condensed into one with three amplifiers (41, 42, 43) and horn controls.



"Cases have occurred where persons having some radio experience have experimented with the equipment and made changes and substitutions. Not only is this <u>expressly forbidden in the contract</u> by which the equipment is leased to the theatre, but also there will almost certainly be serious ill effects on the quality of reproduction and the life of the equipment."

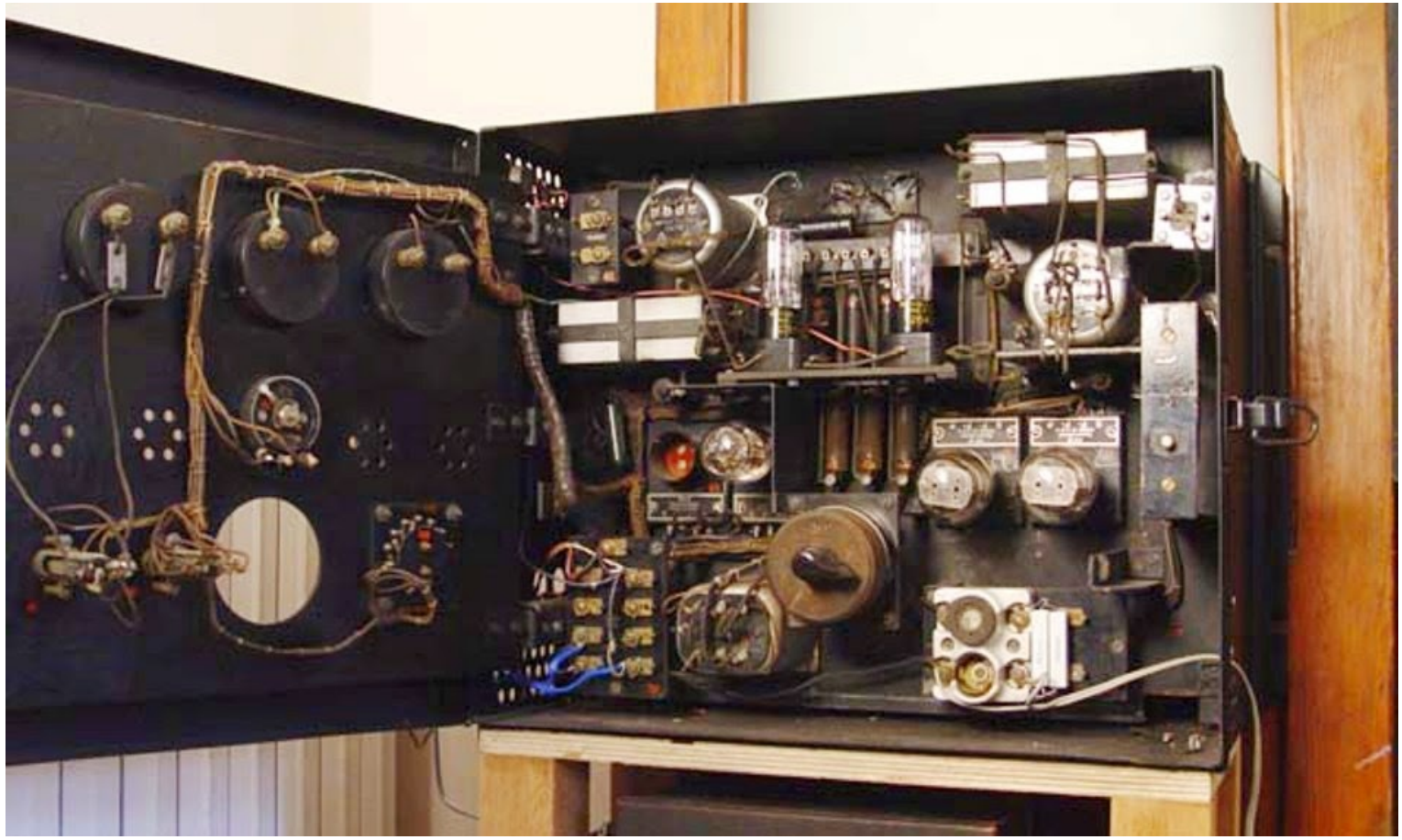


Courtesy gokudo.co.jp

The wall-mounted 46B was part of the Fox installation and represented a further reduction in size from the previous version.

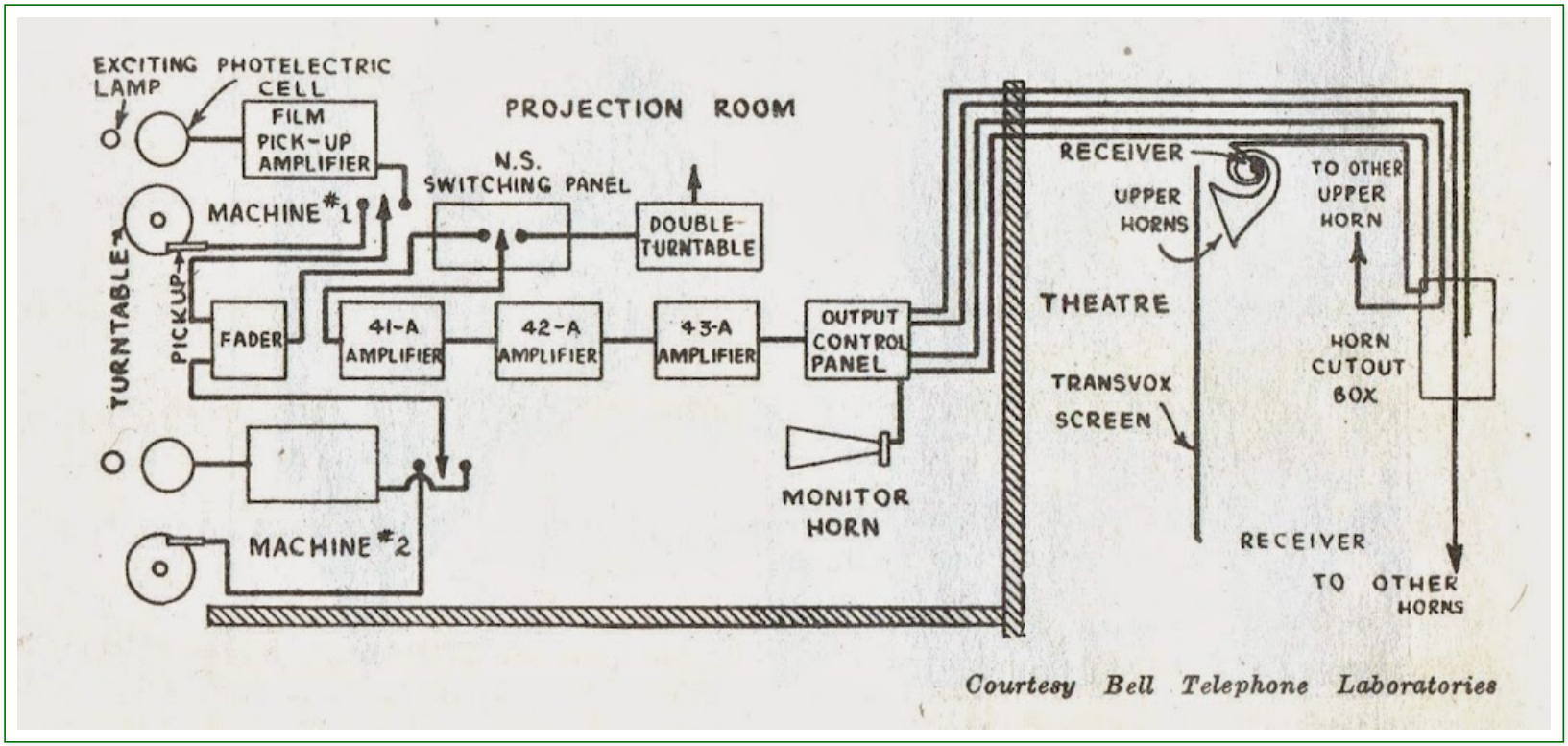
Courtesy audioanthology.com

The fabric-covered wiring was bundled with meticulously tied string, then lacquered.



Courtesy audioanthology.com

By the time of the Fox installation, an improved stage horn design obviated "other horns."



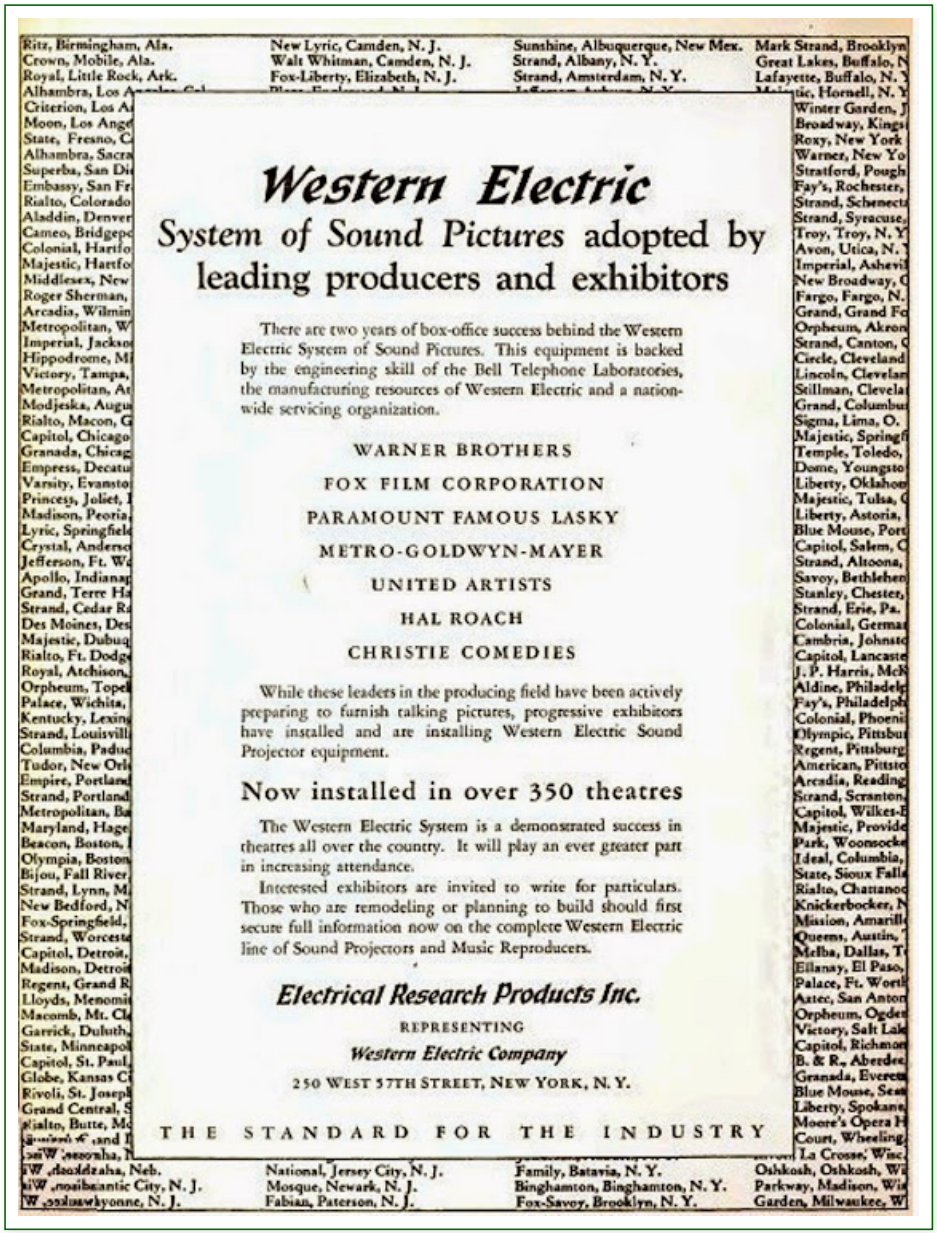
Western Electric had many light-weight contenders in theatre installation, including (counter-clockwise from top) Cinephone, Dramaphone, Moviephone, and De Forest's own Phonofilm. None survived.

Motiograph De Luxe Model "H" equipped with Movietone - Vitaphone Sound Unit.
Motiograph De Luxe Model "H" equipped with Cinephone Sound Unit.
Motiograph De Luxe Model "H" equipped with DeForest's Phonofilm Sound Unit.
BEST FOR ANY SOUND SYSTEM
Motiograph De Luxe Model "H" equipped with Dramaphone Sound Unit.
Motiograph De Luxe Model "H" equipped with Movie - Phone Sound Unit.

The only serious competition was RCA's Phonophone which came too late to equip any studio except its parent RKO.

NOW!
2116
INSTALLATIONS
Nine
Months Ago
926
INSTALLATIONS
In 1928
69
INSTALLATIONS
LEADERS!
~in Sound Quality
and Service!
SINCE January 1930, RCA PHOTOPHONE has been making theatre installations at the rate of 132 a month! . . . Dominating the field of careful buyers!
Each month the number increases! . . . Today, RCA PHOTOPHONE is the dominant equipment! . . . leading all in sound quality!
Only QUALITY could account for such tremendous growth . . . the QUALITY that is built into the equipment . . . QUALITY of installation . . . and QUALITY of service after installation!
SOUND QUALITY has placed RCA PHOTOPHONE in its superlative position in the talking picture world.
RCA PHOTOPHONE has brought to thousands of theatres, large and small, a perfection in sound reproduction that is the logical result of the unmatched resources, the unrivaled engineering genius, the strength and stability of the world's greatest electrical and acoustical organizations.
The theatre, whether it be 500 seats or 5,000, equipped with RCA PHOTOPHONE is giving to its audience THE UTMOST IN SOUND QUALITY!
RCA
PHOTOPHONE
Cash Price $2,500.00
Small Theatre Equipment for capacities to 1,000. SOUND ON FILM ONLY.
Deferred Payment Plan averages . . . $43.85 Weekly*
Cash Price $2,995.00
Small Theatre Equipment for capacities to 1,000. SOUND ON FILM AND DISC.
Deferred Payment Plan averages . . . $51.90 Weekly*
Cash Price $6,500.00
For Theatres to 2,000 seating capacity.
Deferred Payment Plan averages . . . $78.50 Weekly*
Cash Price $9,250.00
For Theatres of 2,000 capacity and over.
Deferred Payment Plan averages . . . $100.00 Weekly*
RCA PHOTOPHONE, Inc.
(Subsidiary of Radio Corporation of America)
EXECUTIVE AND COMMERCIAL OFFICES — 411 FIFTH AVENUE, NEW YORK CITY
U. S. BRANCH OFFICES . . . ALBANY, DeWitt Clinton Hotel; ATLANTA, 101 Marietta St.; BOSTON, Statler Office Bldg.; CHICAGO, 100 W. Monroe St.; CLEVELAND, Film Bldg.; DALLAS, 1709 Commerce St.; DENVER, U. S. Nat. Bank Bldg.; DETROIT, Fox Theatre Bldg.; KANSAS CITY, 1717 Wyandotte St.; LOS ANGELES, 7000 Santa Monica Blvd.; PHILADELPHIA, 261 N. Broad St.; PITTSBURGH, Wm. Penn Hotel; SAN FRANCISCO, Russ Bldg.; SEATTLE, Orpheum Theatre Bldg.; WASHINGTON, 1010 K St., N. W.
CANADIAN DISTRIBUTORS . . . Electrics, Ltd., 366 Mayor St., MONTREAL. RCA Sound Equipments, Ltd., 593 Lindsay Bldg., WINNIPEG and 3566, 39th St., W., VANCOUVER, B. C.
Branches and Agents in All Principal Foreign Countries.

Western Electric got out of the theatre equipment business in 1937, but continued to service the studios for several decades more. Below, a gallery of their trade advertisements.


Ritz, Birmingham, Ala.
Crown, Mobile, Ala.
Royal, Little Rock, Ark.
New Lyric, Camden, N. J.
Walt Whitman, Camden, N. J.
Fox-Liberty, Elizabeth, N. J.
Sunshine, Albuquerque, New Mex.
Strand, Albany, N. Y.
Strand, Amsterdam, N. Y.
Mark Strand, Brooklyn
Great Lakes, Buffalo, N
Lafayette, Buffalo, N. Y
Western Electric
System of Sound Pictures adopted by leading producers and exhibitors
There are two years of box-office success behind the Western Electric System of Sound Pictures. This equipment is backed by the engineering skill of the Bell Telephone Laboratories, the manufacturing resources of Western Electric and a nation-wide servicing organization.
WARNER BROTHERS
FOX FILM CORPORATION
PARAMOUNT FAMOUS LASKY
METRO-GOLDWYN-MAYER
UNITED ARTISTS
HAL ROACH
CHRISTIE COMEDIES
While these leaders in the producing field have been actively preparing to furnish talking pictures, progressive exhibitors have installed and are installing Western Electric Sound Projector equipment.
Now installed in over 350 theatres
The Western Electric System is a demonstrated success in theatres all over the country. It will play an ever greater part in increasing attendance.
Interested exhibitors are invited to write for particulars. Those who are remodeling or planning to build should first secure full information now on the complete Western Electric line of Sound Projectors and Music Reproducers.
Electrical Research Products Inc.
REPRESENTING
Western Electric Company
250 WEST 57TH STREET, NEW YORK, N. Y.
THE STANDARD FOR THE INDUSTRY
National, Jersey City, N. J.
Mosque, Newark, N. J.
Fabian, Paterson, N. J.
Family, Batavia, N. Y.
Binghamton, Binghamton, N. Y.
Fox-Savoy, Brooklyn, N. Y.
Oshkosh, Oshkosh, Wi
Parkway, Madison, Wis
Garden, Milwaukee, W

Western Electric

SYSTEM

of

TALKING PICTURES

Adopted by

WARNER BROTHERS (VITAPHONE)
FOX FILM CORPORATION (MOVIETONE)
PARAMOUNT FAMOUS LASKY CORPORATION
METRO-GOLDWYN-MAYER CORPORATION
FIRST NATIONAL PICTURES, INC.
UNITED ARTISTS CORPORATION
UNIVERSAL PICTURES, INC.

The System which has been selected by all the major producing companies as their standard is Western Electric—product of the world's pioneers in communication—development of the Bell Telephone Laboratories—the only application of sound to motion pictures now in commercially successful use.

For two years an outstanding development in the field of entertainment, Western Electric equipment is now installed in more than 300 theatres, bringing to audiences all over the country pictures that talk and sing and play.

With seven great producers putting sound into their pictures, progressive exhibitors everywhere will recognize its significance to the industry.

For information as to theatre equipments address

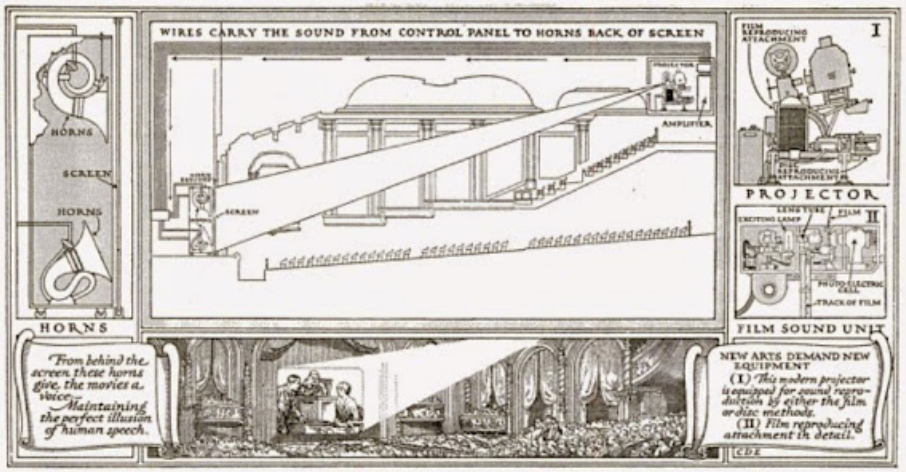
Electrical Research Products Inc.

SUBSIDIARY OF

Western Electric Company

250 WEST 57TH STREET, NEW YORK, N. Y.

THE STANDARD FOR THE INDUSTRY


WIRES CARRY THE SOUND FROM CONTROL PANEL TO HORNS BACK OF SCREEN
HORNS
SCREEN
HORNS
AMPLIFIER
PROJECTOR
FILM SOUND UNIT
I
II
"From behind the screen these horns give the movies a voice." —Maintaining the perfect illusion of human speech.
NEW ARTS DEMAND NEW EQUIPMENT
(I) This modern projector is equipped for sound reproduction by either the film or disc methods.
(II) Film reproducing attachment in detail.

WHAT MAKES THE PICTURE TALK?

Your enjoyment of a Sound Picture depends largely on the quality of apparatus used. It pays to go to theatres equipped by the makers of your telephone—the Western Electric Company

The sensitive Sound Picture microphone (C), designed for studio recording. A development of the broadcasting microphone (B) and the telephone transmitter (A), indicating how "Sound Pictures come out of the telephone."

WHEN you go to hear a Sound Picture you wish to be certain that the voices will be clear and natural; that the musical accompaniment and the sound effects coming from the screen will be thoroughly pleasing.

Near you is probably at least one theatre which assures just that, because it is equipped with the Western Electric Sound System. This apparatus, made by the makers of your telephone, is installed and inspected by engineers trained in this new art.

The reliable quality of this Sound System has been recognized by over 2,000 theatre exhibitors — exhibitors who have a habit of considering their patrons' satisfaction and who therefore believe that it is worth a little extra investment to secure equipment of proved results.

In selecting Western Electric these exhibitors knew that the correct transmission and reproduction of sound is an extremely difficult problem, as is evidenced by the wide differences in quality between various radios and phonographs. They knew that it was Western Electric's experience with this very problem which, after years of unsuccessful effort by others, finally made Sound Pictures possible.

This same organization which brought the telephone to its present excellence will likewise constantly seek to improve Sound Picture apparatus still further.

To Theatre Exhibitors

People know good Sound reproduction when they hear it. They are quick to appreciate the high quality assured by Western Electric equipment. If your theatre is thus equipped you will render a service by displaying that fact in your advertising and in lobby and outside signs. For additional information address Electrical Research Products, Inc., 50 Church Street, New York.

The loud-speaking horn (C), a marked improvement for Sound Picture purposes over the cone loudspeaker (B). It is a direct descendant of the familiar telephone receiver (A), and is made with the same care.

Western Electric

THE VOICE OF ACTION

SOUND SYSTEM

This lobby plaque is furnished Western Electric equipped theatres to identify themselves with the only sound system that is nationally advertised.

Here's the Solution of the Small Theatres' Problem

FOR a modest initial payment and as little as $30 weekly over a three-year period, depending upon the type of equipment required, any theatre, under the new plan of financing through the Exhibitors Reliance Corporation, can now secure the installation of a Western Electric Sound System.

Its quality has never been questioned. Its superiority has been universally accepted.

Today it is being offered on terms of payment that place it within the means of even the smallest houses.

The same superior design of the Bell Telephone Laboratories and the same high quality of manufacture by the Western Electric Company that have made it the standard sound system equipment of the motion picture industry—

Serviced by Electrical Research Products' nation-wide staff of 735 technical men—your insurance against breakdowns and costly program interruptions—

This is the Western Electric Sound System, now offered on a basis that enables exhibitors to finance its installation in part out of the income it will produce.

Our representative will be glad to supply complete details.

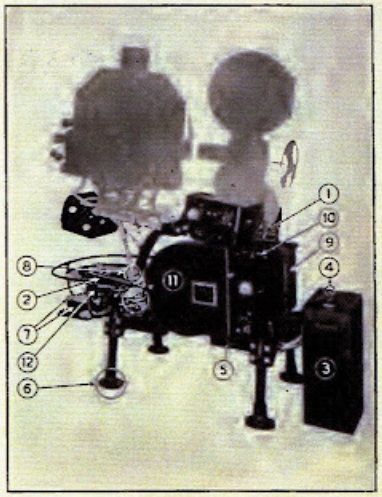
Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.

MEMBER OF MOTION PICTURE PRODUCERS AND DISTRIBUTORS OF AMERICA, INC. WILL H. HAYS, President.

THE SEVENTH OF A SERIES ON QUALITY REPRODUCTION by WESTERN ELECTRIC

12 important features... of the Western Electric *Reproducer Set*



THE Western Electric reproducer set is built to weather the shocks and jars of many years of constant use. It stands four square on one base—no auxiliary pedestal to jar out of line. It combines highest quality sound reproduction with projection room requirements of durability, dependability and ease of operation.

These 12 points explain the world-wide popularity of the Western Electric reproducer set with exhibitors and projectionists:

1. All mechanical drives, no belts.
2. Highest quality reproducer, scientifically balanced to provide proper tracking.
3. Motor control box, exclusive Western Electric feature, guarantees uniform speed, eliminates changes in pitch.
4. Switch enables change from constant to variable speed when silents are shown.
5. Special foot brake and switch for quick stopping of machine.
6. Machine rests on ball joints, insures good mounting.
7. Rubber cushions eliminate shocks and jars from turntable.
8. Permits easy adjustment of machine to all projection angles.
9. Photo-electric cell amplifier, rubber cushioned and suspended on springs to eliminate noises caused by jars and vibrations.
10. Film-disc transfer switch enables projectionist to prepare machine for film or disc at time of threading rather than at moment of changeover.
11. Specially designed lower magazine, including a scientifically adjusted hold-back sprocket, eliminates "flutter" often caused by uneven film pull.
12. Scientifically designed mechanical filter system in turntable drive eliminates all noise due to action of gears.

A Guarantee of Film and Disc Quality Reproduction

Western Electric SOUND SYSTEM — THE VOICE OF ACTION

Distributed by

Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.

Member of Motion Picture Producers and Distributors of America, Inc.—Will H. Hays, President

THE FIRST OF A SERIES OF ADS ON QUALITY REPRODUCTION by WESTERN ELECTRIC

Why?

Why do you need quality reproduction?

Why has the Western Electric Sound System been accepted as the standard of quality reproduction?

Why does Western Electric equipment cost more?

Why do progressive exhibitors pay more for Western Electric equipment when sound devices can be bought for less money?

Why does Western Electric lead the field with more than 2,600 installations?

Why do pictures make more money in Western Electric wired theatres?

Why does Western Electric equipment operate more efficiently than any other?

To answer these questions Western Electric announces a series of advertisements on quality reproduction.

The series will be informative, crammed with sound picture facts. It will be of interest and value to every exhibitor regardless of the equipment he has or intends to buy.

Western Electric
THE VOICE OF ACTION
SOUND SYSTEM

Distributed by

Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.

THE SECOND OF A SERIES ON QUALITY REPRODUCTION by WESTERN ELECTRIC

We have mastered "S" *the* *in* Sound Reproduction

THE WESTERN ELECTRIC SOUND SYSTEM delivers sounds in natural, undistorted tones. It reproduces faithfully the range of sound frequencies which give instruments and voices their distinctive qualities.

What happens when speech is poorly reproduced? Voices sound thin and shrill or they "go bass," destroying all color, timbre, charm and personality. The actress speaks her lines in a lisping, dull and quavering voice. If she says "Mississippi," it sounds like "Mithithippi." Other annoying and ridiculous sounds replace the clear, perfect speech. Illusion and box office appeal are destroyed.

What happens when an orchestra in a sound picture is reproduced over poor equipment? You see the drummer hit his bass drum, but you hear no "boom." The harpist plucks his bass strings; you fail to hear their resonant notes. The piccolo, violin, tuba, clarinet and other instruments are seen in the orchestra, but their music is thin and distorted or not heard at all.

In the Bell Telephone Laboratories the ranges of sound pitch of all speech and musical instruments have been studied and determined accurately. The results of these investigations are the basis for the design of all Western Electric equipment.

Practically all of the sound pictures scheduled are 100 per cent dialogue. The Western Electric Sound System reproduces these pictures with the faithfulness demanded by a quality-conscious public.

For full range reproduction the only System is the

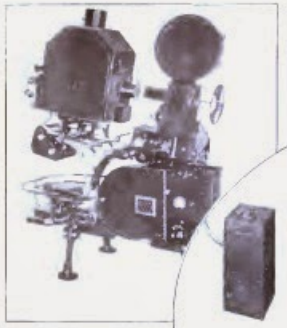
Western Electric SOUND SYSTEM

THE VOICE OF ACTION

Distributed by

Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.



An essential to quality reproduction *yet an* EXCLUSIVE FEATURE *of the* Western Electric Sound System

TALKING pictures are recorded at a speed of 90 feet per minute. They must be reproduced at exactly the same speed. Variations in speed cause the pitch of voice and music to rise or fall.

A musical ear will detect sudden changes in pitch caused by a change in speed of only one-half of one per cent. If the speed is not held within this small limit, quality reproduction is impossible. Ordinary motors will not answer this purpose.

Western Electric has solved the problem by the use of a specially designed motor control which holds the motor speed within one-fifth of one per cent. This is an exclusive Western Electric feature.

Its operation is automatic, requiring no attention. The worry and trouble of attempting to control the speed of reproduction is eliminated.

The motor control box is just one of a number of refinements found only in the Western Electric Sound System which make quality reproduction a fact. The exhibitor will find that this control and other features are distinct aids in putting over a talking picture with the quality demanded by the public.

Quality Reproduction means Western Electric Reproduction

Western Electric SOUND SYSTEM — THE VOICE OF ACTION

Distributed by

Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.

Should Price

be the main *consideration?*

The Western Electric Sound System *never has been — and never will be* — offered *on a price basis . . .*

IT IS the highest priced equipment now on the market—and for reasons that must appeal to exhibitors who have vision, a sense of responsibility to their patrons and the reputation of their theatres at heart.

Its price is not governed by "how much will the traffic bear"—but rather by "how well can we design, manufacture, install and service."

The Bell Telephone Laboratories will not design apparatus that does not give the best results scientific knowledge can produce.

The Western Electric Company will not manufacture apparatus that does not measure up to the highest mechanical and electrical standards.

Electrical Research Products Inc. will not omit one step in its installing and servicing procedure -- the omission of which would be harmful to exhibitor, producer and manufacturer.

Not only does the exhibitor profit by this three-fold guarantee of quality in assuring for himself a satisfied public *now*—

But he has the further assurance that three, five or ten years hence he will not have an "orphan" on his hands.

Price? As few as 40 or 50 new patrons a day will more than pay for a Western Electric Sound System, installed and serviced in a 1000 seat house!

Think of quality first. It's what your public demands

Western Electric
THE VOICE OF ACTION
SOUND SYSTEM

Distributed by

Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.

3 years of wonderful progress

...millions of people going to Sound Pictures

... and Western Electric tells them where to go for Sound Pictures at their best!

Important to your enjoyment of sound pictures

YOUR ENJOYMENT of any Sound Picture depends on three things—the picture itself, the quality of its Sound recording and the natural tone of Sound reproduction in the theatre where you sit. Do not let your entertainment be spoiled by indifferent reproduction.

Get in the habit of going to theatres which have installed the Western Electric Sound System as an assurance of reliable quality. This system, made by the organization which three years ago developed the first practical Sound Picture apparatus, has proved a great popular success the world over. Naturally so, because it is the result of half a century's experience in telephone making and it speaks with all the clearness of your telephone.

TOMORROW? ...The art of making Sound Pictures is being constantly improved by leading producers, who are using Western Electric apparatus in their studios. These improvements will be best appreciated when the pictures are reproduced in theatres equipped with the Western Electric Sound System.

Western Electric SYSTEM

The advertisement here reproduced appears in the following magazines:

Publication	*Date*	*Circulation*	*Publication*	*Date*	*Circulation*
American Boy	October, 1929	279,059	Motion Picture Classic	October, 1929	338,973
Collier's	August 24, 1929	1,643,017	New Yorker	October 5, 1929	69,472
College Humor	October, 1929	239,276	Photoplay	October, 1929	547,605
Life	September 13, 1929	144,700	Saturday Evening Post	September 28, 1929	2,902,093
Liberty	September 21, 1929	1,528,796	Time Magazine	October 14, 1929	180,465
				Total Circulation	7,873,456

Worth more because it

earns more!

...that is why
4903 theatres
have selected
the

Western Electric
SOUND SYSTEM
THE VOICE OF ACTION

Distributed by

Electrical Research Products Inc.
250 West 57th Street, New York, N. Y.

Member of Motion Picture Producers and Distributors of America, Inc. Will H. Hays, President

Will *your* theatre pass the *Voice Test?*

Today the public chooses the theatre where every word in a talking picture is clear and distinct—where it feels all the charm of living personalities. Western Electric equipped theatres are setting the standard—are you meeting it?

Western Electric SOUND SYSTEM

THE VOICE OF ACTION

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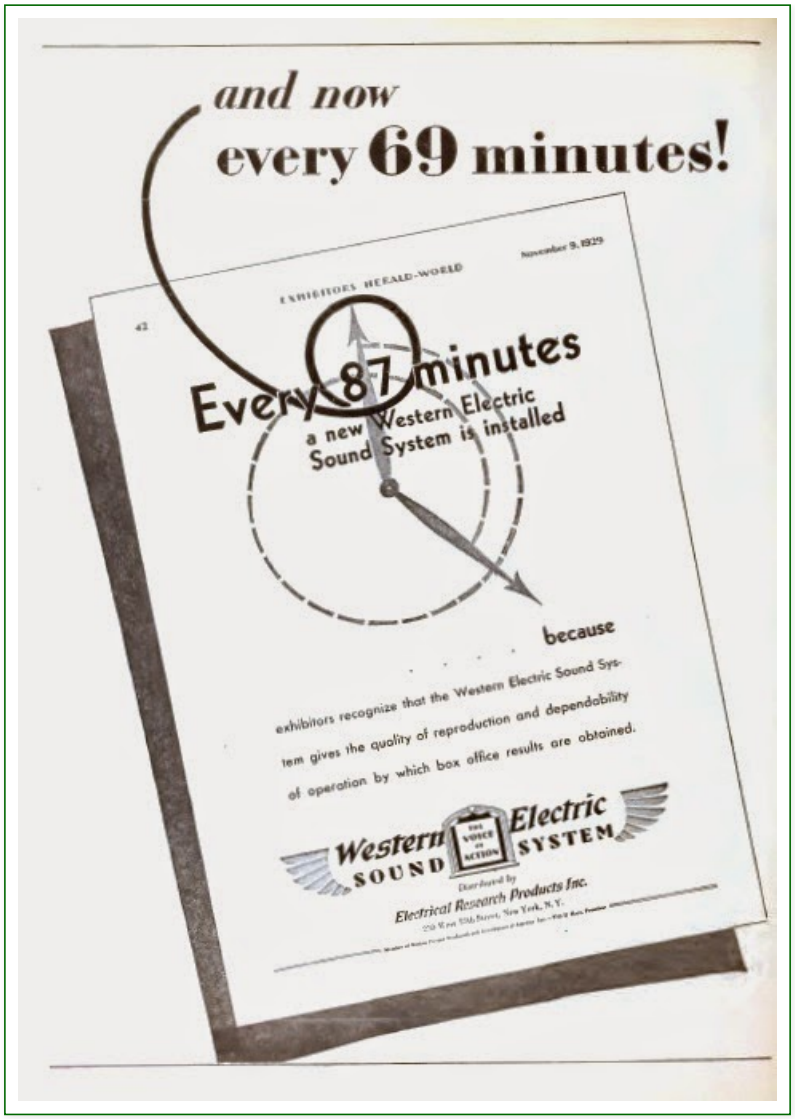
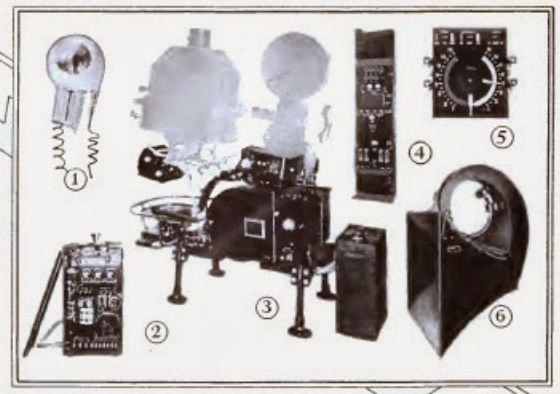
250 West 57th Street, New York, N.Y.

Member of Motion Picture Producers and Distributors of America, Inc.—Will H. Hays, President


and now
every 69 minutes!
EXHIBITORS HERALD-WORLD
November 9, 1929
42
Every 87 minutes
a new Western Electric
Sound System is installed
because
exhibitors recognize that the Western Electric Sound Sys-
tem gives the quality of reproduction and dependability
of operation by which box office results are obtained.
Western Electric
SOUND SYSTEM
THE VOICE OF ACTION
Distributed by
Electrical Research Products Inc.

THE EIGHTH OF A SERIES ON QUALITY REPRODUCTION by WESTERN ELECTRIC



1. *Photo-electric cell.*
2. *Motor speed control box.*
3. *Projection machine with film and disc attachment.*
4. *Amplifying panel.*
5. *Fader.*
6. *Reproducing horn.*

Smoothly dove-tailed!

Western Electric Sound System is *manufactured* — not merely assembled

Loud speakers, transformers, tubes — all the parts through which the speech current flows — are designed by Bell Telephone Laboratories and manufactured by Western Electric.

Every part is perfectly balanced electrically to work in harmony and at highest efficiency with every other part. Each is designed and manufactured to fit mechanically and electrically into its place in the complete system. The result is *electrical teamwork*—and quality reproduction—such as no *assembled* system can hope to equal.

Many of the parts which go into the Western Electric Sound System are similar to those used in the nation's telephone system. They are the results of more than fifty years of research and experience in the manufacture of voice transmission apparatus.

The Western Electric Sound System is built to produce the highest standard of quality reproduction demanded by a quality conscious public—and to render that service dependably over a long period. It does not sacrifice quality for price.

Western Electric's undivided responsibility — covering the manufacture, installation and servicing of its Sound System—is your assurance of high quality, trouble-free performance.

Quality and Service protect you in the

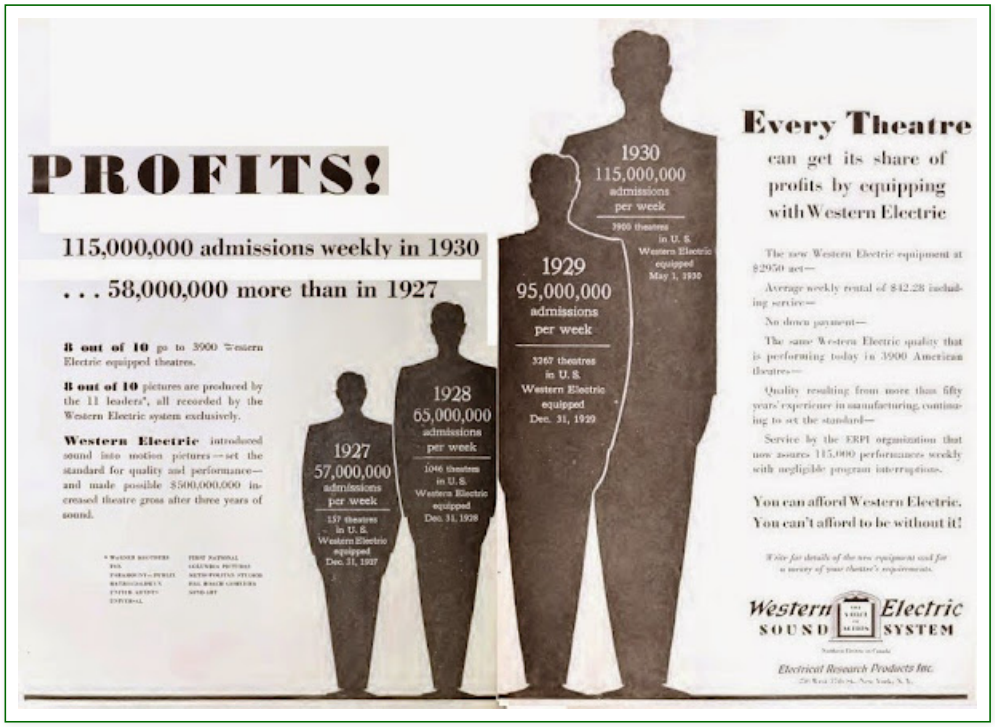
Western Electric SOUND SYSTEM

THE VOICE OF ACTION

Distributed by

Electrical Research Products Inc.

250 West 57th Street, New York, N. Y.


PROFITS!
115,000,000 admissions weekly in 1930
. . . 58,000,000 more than in 1927
8 out of 10 go to 3900 Western Electric equipped theatres.
8 out of 10 pictures are produced by the 11 leaders*, all recorded by the Western Electric system exclusively.
Western Electric introduced sound into motion pictures—set the standard for quality and performance—and made possible $500,000,000 increased theatre gross after three years of sound.
1927
57,000,000
admissions
per week
157 theatres
in U. S.
Western Electric
equipped
Dec. 31, 1927
1928
65,000,000
admissions
per week
1046 theatres
in U. S.
Western Electric
equipped
Dec. 31, 1928
1929
95,000,000
admissions
per week
3267 theatres
in U. S.
Western Electric
equipped
Dec. 31, 1929
1930
115,000,000
admissions
per week
3900 theatres
in U. S.
Western Electric
equipped
May 1, 1930
Every Theatre
can get its share of profits by equipping with Western Electric
The new Western Electric equipment at $2950 net—
Average weekly rental of $42.28 including service—
No down payment—
The same Western Electric quality that is performing today in 3900 American theatres—
Quality resulting from more than fifty years experience in manufacturing continuing to set the standard—
Service by the ERPI organization that now assures 115,000 performances weekly with negligible program interruptions.
You can afford Western Electric.
You can't afford to be without it!
Write for details of the new equipment and for a survey of your theatre's requirements.
Western Electric
SOUND SYSTEM
Electrical Research Products Inc.

981 theatres have replaced unsatisfactory sound equipment with . . . Western Electric!

Why? Because of loss of business

due to poor reproduction . . . lack of proper servicing . . . program interruptions.

The insistent public demand for quality sound reproduction led these 981 theatres to change their equipment.

It's profitable to install Western Electric in the first place—it costs less in the long run.

Western Electric
SOUND SYSTEM
THE VOICE OF ACTION

Northern Electric in Canada

Distributed by

Electrical Research Products Inc.

250 W. 57th Street, New York

YOU wouldn't give them *picture projection* like this . . . . .

. . . Then why give them *sound projection* like this?

Your public that demanded good projection now insists upon clear, natural sound reproduction. Unless they get both in your theatre, you are giving them only a part of the show.

The recording of talkies by Western Electric apparatus—used exclusively by producers who make 8 out of every 10 pictures—has reached a high point of excellence.

It is now more important than ever that you use equipment capable of *reproducing* everything that directors and stars put into these productions.

Western Electric theatre equipment—designed and built as part of a complete system for recording and reproducing sound—serviced by ERPI to maintain quality—brings out everything that's in the picture.

That's why—week after week—the crowds flock to the nearly 7000 Western Electric equipped houses all over the world.

Only Western Electric equipment can give the complete show that brings maximum business to your theatre.

Western Electric
THE VOICE OF ACTION
SOUND SYSTEM

Northern Electric in Canada

Distributed by

Electrical Research Products Inc.

250 W. 57th Street, New York

4 times around the earth every week

110,000 *miles travelled by ERPI Engineers* ***so that the show can go on . . . . .***

This amazing weekly mileage is just one indication of ERPI's constant efforts to maintain every Western Electric Sound System at peak performance. . . . Down have come the number of emergency calls every month. In one year they have been reduced 28 per cent because regular service calls have eliminated the emergencies — a preventive service. . . . When emergencies do arise, records show that ERPI Engineers are reducing the time to clear trouble. In August, 1930, average time to clear trouble was 131 minutes. In August, 1931, time to clear trouble had been reduced to 35 minutes. . . ."Peak Performance for the life of your contract"—the ERPI Service Engineer's guarantee.

Western Electric
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250 West 57th Street, New York

THE ERPI SERVICE ENGINEER

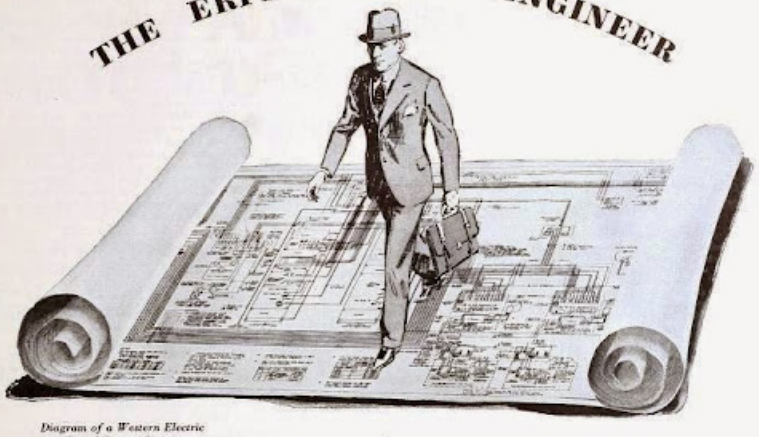


Diagram of a Western Electric Sound System Circuit

knows his way through this intricate circuit

. . . that's why he is able to protect you against Poor Sound, Breakdowns, Program Interruptions and Lost Patronage!

Trained to Bell System standards of maintenance, the ERPI man can render this service more economically and efficiently than anyone else.

Backed by 50 years of voice transmission experience, the Western Electric Sound System is the finest equipment you can buy. Yet even the finest equipment needs regular, painstaking and expert inspection and service.

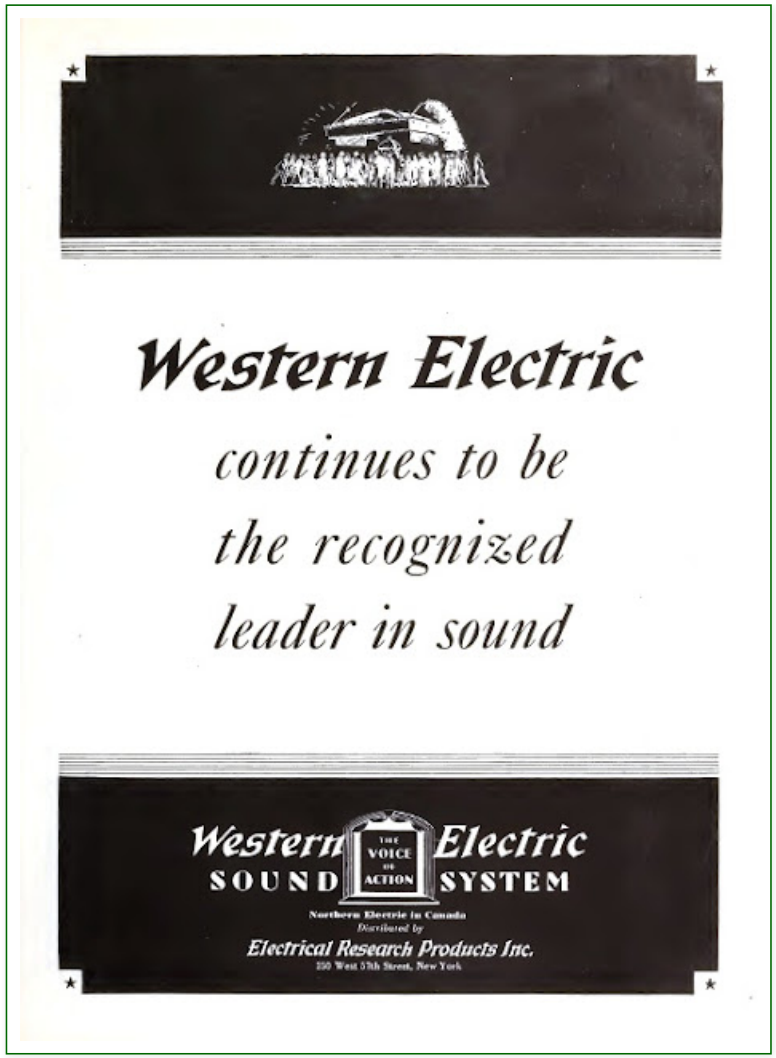
By keeping your Western Electric Sound System operating at peak performance for the life of your contract, the ERPI Service Engineer helps you earn dividends on your investment!

Western Electric
SOUND SYSTEM
THE VOICE OF ACTION

Northern Electric in Canada
Distributed by
Electrical Research Products Inc.
250 West 57th Street, New York

A SCRAP HEAP THAT COST MILLIONS!
981 theatres
have replaced unsatisfactory
sound equipment with . . .
Western Electric!
Why? Because of loss of business
Western Electric
SOUND SYSTEM
Electrical Research Products Inc.
The advertisement reproduced above
appeared in motion picture trade
papers during July and August.
now-1270!

1933.



Stage loudspeaker horns and the picture sheet will be addressed in a subsequent chapter.

To contact us,
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To read Chapter I: Hub Switchboard Operating Manual, click here.

To read Chapter II: Audio and Electro-mechanicals, click here.

To see Sources, click here.

To read the Western Electric ERPI operating instructions for synchronous reproduction, click here.

To read the Super Simplex operating manual, click here.

To read the Brenkert Brenograph operating manual, click here.

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